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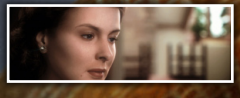
Issue033 May 2008 $4.50 / €3.25 / £2.25



ARTICLES
SWAY Studios latest campaign for Pontiac plus more!



INTERVIEWS
Mathieu Aerni , Unexpected & Franz Steiner



GALLERIES
Greg Petchkovsky, Anton Bugaev & Malanjo plus more!



MAKING OF'S
'Eco-Wrestle' by Simon Reeves plus more!



TUTORIALS
Part 5 of our Bugatti Veyron Car Modelling Tutorial Series, plus more!



Editorial

Well, we're in a sunny mood here and you'll find it reflected in the great content that we've managed to pack into this month's issue for you! First up, for all those LightWavers who've been hanging onto their seats for Parts 3-5 of the Bugatti Veyron tutorial, then wait no more – simply flick to PAGE 129 and get stuck into the finishing modelling touches to the Bugatti Veyron before we move on to the Materials and Shaders next month!

The sun must have really gone to our heads (we're not used to such a thing over here!) as we're bringing you not one but *four* fantastic Making Of articles this month, including one of our wonderfully bold cover image by the newly formed CHEVisodes team, which encompasses some of our favourite artists of today, including Patrick Beaulieau and Jonathan Simard, so check out PAGE 115 for the Making Of 'Fern' who is certainly a character to behold!!

Now, when you spend half of your life emailing it comes as no surprise that you'll find certain people who will lighten up your mailbox, and well, the wonderfully friendly and superbly busy Alex Kiesl, the MD of the dynamic studio, "Unexpected", is one of those lovely people! In-between Alex's manic schedule of film shoots and project deadlines, we managed to catch up with him for a chat about Unexpected's projects and more, and he has once again impressed with the fantastic interview that you'll find on PAGE 27. This is just the beginning from these determined guys, so hold tight and stay-tuned for more amazing stuff coming from Stuttgart, Germany!

We also have *another* great interview with Mathieu Aerni, who's worked for two of the biggest names in the games industry: Ubisoft and Lucas Arts. So if you're pining for a career in the games industry then this is your man – head on over to PAGE 6 for some behind the scenes chat and learn from one of the pros! Another pick of the bunch this month must surely be the interview with Franz Steiner, whose design company blends – perfectly – high quality photography and CG in order to produce some simply stunning visual effects for the fashion and advertising industries. You won't be disappointed when you see the stuff that they cook up at Blutsbrueder Design and you'll find their work flooding PAGE 17 and beyond.

Finally, don't forget to keep up with Wayne Robson in Part Four of the ZBrush tutorial series this month and – oh yes, ENJOY! Cheers, Ed.

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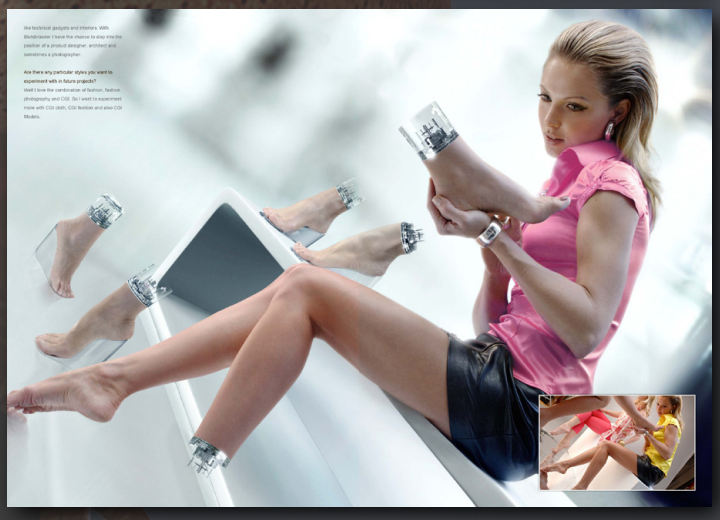


Get the most out of your Magazine!

If you're having problems viewing the double-page spreads that we feature in this magazine, follow this handy little guide on how to set up your PDF reader!







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For optimum viewing of the magazine, it is recommended that you have the latest Acrobat Reader installed. You can download it for free, here: DOWNLOAD!

To view the many double-page spreads featured in 2DArtist magazine, you can set the reader to display 'two-up', which will show double-page spreads as one large landscape image:

1. Open the magazine in Reader;
2. Go to the VIEW menu, then PAGE DISPLAY;
3. Select TWO-UP CONTINUOUS, making sure that SHOW COVER PAGE is also selected.

That's it!

Contributing Artists

Every month, many creative and talented artists from around the world contribute to 3DCreative Magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact lynette@zoopublishing.com.



Our new car modelling tutorial series, Bugatti Veryon, brings a group of new talented artists to 3DCreative Magazine. These wonderful people are responsible for creating our 3ds Max, Cinema 4D, LightWave, Maya & Softimage XSi content this month!



Ali Ismail



is a 3D artist who has worked on everything from Hollywood movies to TV commercials to games. He started out by doing the first 3D games in Jordan, then freelanced to clients such as Microsoft and VW, and has also worked for ILM on projects such as Indiana Jones and the Kingdom of the Crystal Skull whilst at Lucasfilm Animation Singapore.

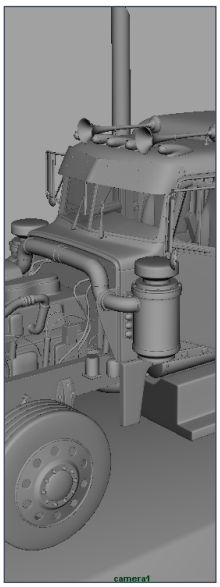
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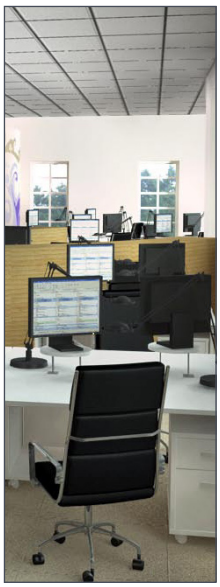


Andrew Hobson

has been using 3D software for about 4-5 years, mainly as a hobby, and enjoys developing his skills through various tutorials and courses. He's most proficient at modelling, especially vehicles, but is looking to develop his organic modelling, particularly humans/fantasy figures. He would love to work in the film or games industry (especially on the Nintendo Wii) so he can develop his skills.

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Emlyn Davies



is a 27 year old freelance 3D artist, based in Birmingham, UK. He has four years experience in Cinema 4D and has freelanced mainly at Cadbury as a 3D consultant for most of his professional career. Passionate about all things 3D, he constantly strives to develop his expertise and blur the boundaries between the real and the digital world.

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Krisztián Szeibold

is a 3D Artist living in Budapest, Hungary. In 2000, he started using 3D software such as 3D Studio R4, and later 3ds Max and Maya. He's currently working as a 3D Artist on post-productions and commercials with Softimage XSI and Fusion. He hopes that he's going to be able to work on feature films in the future.

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Vojislav Milanovic



is a 27-year old 3D generalist from Banjaluka, northern Bosnia. After a great time in Australia he went back to his homeland to pursue his career as a 3D artist and lecturer in a Multimedia Design College. As much as he likes learning new things, he also loves teaching others. Amongst other stuff, he enjoys photography, drawing, painting and sculpting. http://www.vojislavmilanovic.com/

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ALEXANDER KIESL

is one of the Managing Directors of Unexpected Postproduction. He started CG at the age of 14 with 3D Studio on MS DOS. From 2000 he studied animation at the Filmakademie Baden-Württemberg and finished in 2005 with the award-winning short, "Racing Beats". Since 2005 he has been part of the directing duo, Alex & Steffen.

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WAYNE ROBSON



is a very successful freelance digital sculptor living in Durham, England. Wayne is currently dividing his time between work on an upcoming creature documentary and his upcoming extensive book on ZBrush for Wordware publishing. Wayne's best selling DVDs on ZBrush and Mudbox are available through Kurv Studios.

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STEFAN BIERMANN

is situated in Germany and has recently completed the first iteration of his portfolio, of which the main project – the F14 – is featured in this issue. He is currently applying for a job in the games industry in Germany, with future plans involving a possible life in the USA or Canada, and is always interested in making contacts within the industry!

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ROMAIN GOUZENNE



is 19 and lives in the south of the France, in Bordeaux. He's self-taught in 3ds Max and will later learn Maya, Fusion and others. His hobbies are 3D, matte painting and photography, and he's currently working as a modeller on a great short movie (out in June!), and hopes, within the next 2-3 years, to find work in a great studio in Paris in the film or games industry.

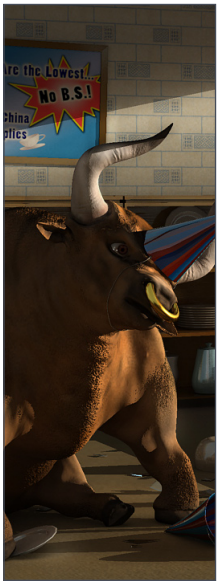
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ALEX BROWN

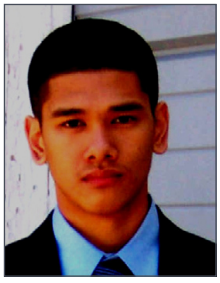
is a 22-year old digital art student attending the Ferris State University in Grand Rapids, MI. He is very motivated and ambitious in obtaining the knowledge necessary to better his skills in the field of 3D. He hopes to one day find a job working in an environment geared towards innovative creativity so that he, too, may become a great digital artist!

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JACOB TRUONG



is currently a junior at Ferris State University studying Digital Animation. He started doing 3D three years ago and has recently gone back to drawing, which was his childhood passion. Having a passion for both 3D and 2D, he is constantly working on improving his skills in the extremely competitive digital world. His dream is to create visual effects for feature films.

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"…at Ubisoft, I probably wouldn't have had the chance to be at a Christmas party, eating Indian food and sitting four seats away from George Lucas!"

Having worked on one a top computer games, at one of the top companies in the games industry, we take the opportunity to chat with Mathieu Aerni about working on *Assassin's Creed* and also about his new career with LucasArts ...

MATHIEU AERNI

MATHIEU AERNI





Hello Mathieu, could you tell us a bit about yourself please and what first got you hooked on 3D?

Well I am an artist who grew up in Quebec, a small town not too far from Montreal in Canada, and I have been into creating art for as long as I can remember. I am lucky to have a friend who shares this passion, so we were always doing art-related projects like comic book drawing, photography, illustration… even latex mask creation and tattooing! At some point my friend showed me what he was doing in 3D and I was instantly hooked! The funny thing is, I am still working with him today after almost 20 years…

I have been in the 3D industry since 2000. My first job was in a French company called Microids. I started working on an amazing project, an adventure game called *Syberia*. I worked on this title as an environment artist, doing high resolution environments for cinematics and pre-rendered backgrounds in game. It was a small company where artists had the chance to model, texture, light and render everything that they were working on so I really enjoyed it. I learned a lot there, especially working with Benoit Sokal, a Belgian comic book artist who was the creator and artistic director of *Syberia 1* and *2*. He had worked in art-related projects for close to 30 years, and with so much experience he taught me a tremendous amount, especially in terms of lighting, image composition and colours.



I was at Microids for four years and worked on *Syberia 1* and *2* as well as a few other adventure games, including *Post Mortem* and a pilot for an animated short. After that I started at Ubisoft Montreal, as a character artist for next generation console games. After completing





Assassin's Creed, I came to LucasArts in San Francisco and that's where I am today. I consider myself lucky to have had the chance to always work on high resolution modelling and texturing, both for environments and characters, because it's my favourite thing to do considering the amount of detail and realism that it allows me to create.

So having worked for what are the two biggest names in the games industry, how does working at LucasArts compare to Ubisoft?

Technically, the big difference is that LucasArts is a private company. And I guess in a management position it must be very different, but for me as an artist, it's very similar. Both places use pipelines that are very similar in term of character creation, so my daily work is not much different, except for the use of Maya instead of 3ds Max and for the use of a bunch of tools and software coming from ILM. Both places are full of very talented and motivated people, and I have learned a lot working a both.

The big differences for me are not directly related to the work itself. For example, the working environments could not be more different; Ubisoft is in a old renovated textile factory in a very crowded neighbourhood of Montreal, while Lucasfilm is in a newly constructed building inside of a beautiful national park, with lot of trees and a creek. Both very motivating working environments, just totally different. And of course at Ubisoft, I probably wouldn't have had the chance to be at a Christmas party, eating Indian food and sitting four seats away from George Lucas!

After just having just completed *Assassin's Creed*, I couldn't help but notice some familiar faces on your online portfolio. Could you tell us how this job came about and about your role in the creation of the game?

I had just finished working on the dinosaurs and humans in Zbrush for the XBOX360 version of Peter Jackson's *King Kong*. The art director on *Assassin's Creed* saw my work and liked it, so

I was hired! *Assassin's Creed* was an amazing experience. We had about 150 characters to create in a small amount of time, so it was very intense but so motivating! My role was to first model and texture the high poly character using 3ds Max for the base mesh and Zbrush, and then bake it on a low poly mesh. For a few specific models I also had to create some beauty shots, so I tapped into my environment artist experience to create interesting lighting set-ups.



Were all 150 characters totally unique?

We created around 150 unique character yes, then afterwards we separated them in a lot of assets and reused all those parts to create an infinite number of new characters. We could combine various body parts and heads, and also something like 60 texture variations in terms of clothing and accessories. For example, I created three totally unique Christian soldiers (a knight, a simple fighter and an archer) for the Lionheart faction. After they were validated, someone else applied different textures variations to my soldiers to make them look like the other faction, the Templars. Then we created different accessories, like weapon and helmets, and a lot of different heads, and we ended up with all those "generic" soldiers that you see in the game. Alongside this, I also had to do important characters, like Richard the Lionheart, who was totally unique and had his own private textures.

Being set in the time of the Third Crusade, was it an easy task finding "true to life" reference material for creating the characters?

When I joined the team they had already collected a huge selection of books and images to use as references, so much of the job had already been done in terms of finding reference material. I had to do some research a couple of times to find some very precise references for specific characters, but not much. So most of the time I just had to go through all the existing material and put together a folder of references for the specific character I was working on. My main concern was finding references for details,

like where the seams were located on clothes at that time in history. We tried to make them look very interesting while respecting the historical references, and most of the credit for that goes to Patrick Desgrenier who was the concept artist on our team.



And how long would it take on average to create a character?

The average time for creating a character on *Assassin's Creed* was a week. That includes the high and the low resolution mesh, both modelled and textured. We had very tight deadlines because we had so many characters to create! For important ones like Richard Lionheart and Saladin, I had more time, around two weeks, and I took some time on my own to light them and pose them to make those "beauty shots" that you can see in my portfolio.

So what are you working on at the moment?

I am working on a next generation project at LucasArts but I'm afraid I can't tell you much about it at this stage.

Which artists inspire you?

So many of them! I grew up reading European comic books and they are the main reason why I began to be interested in art at a young age. I



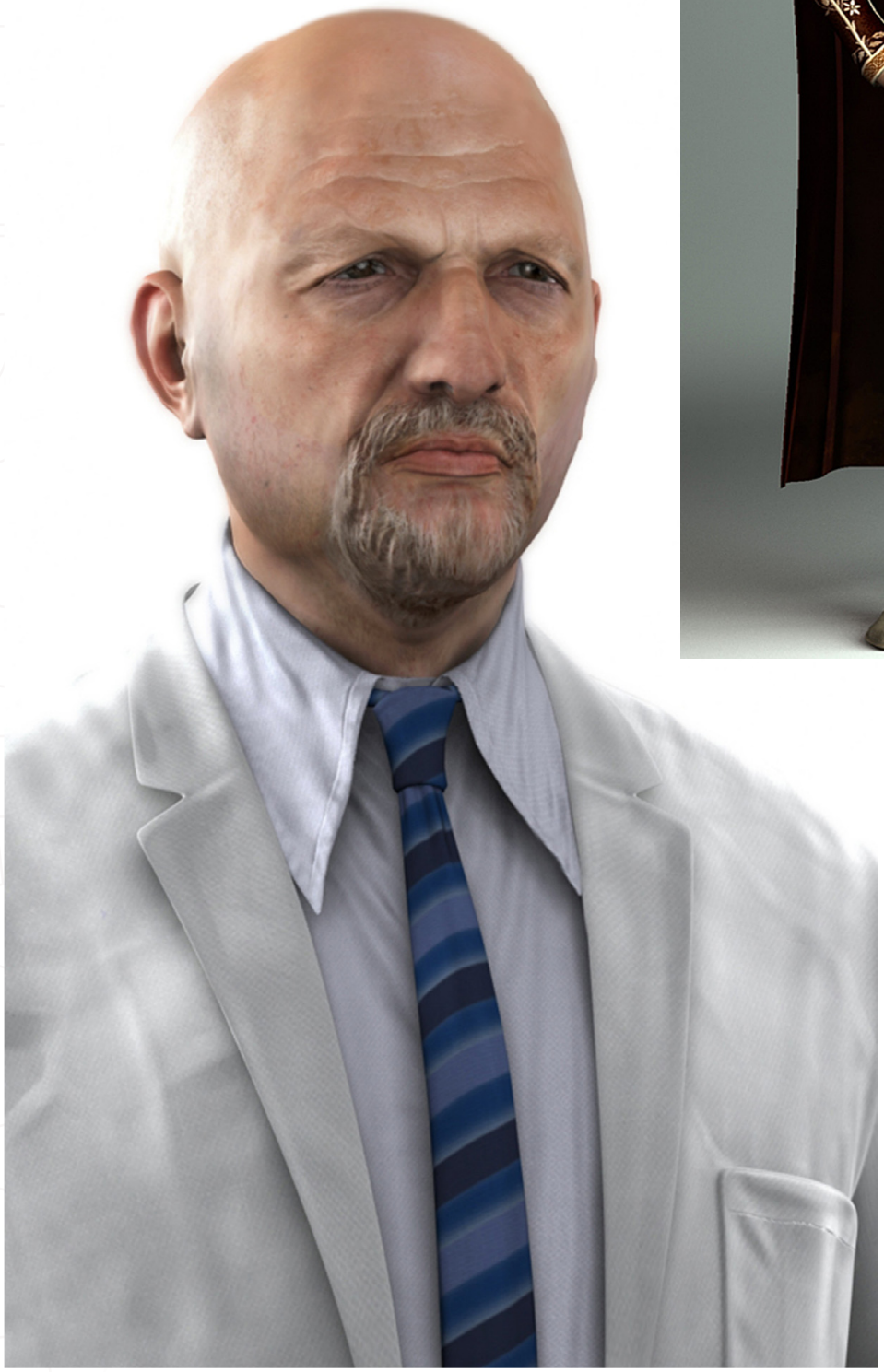
am still a huge fan of those artists like Moebius, Rosinsky, Bilal, Pratt, Manara, Loisel, Guarnido, Gibrat and Frezzato, to name a few. I recently bought a comic book called *Billy Wild* from Ceka and Griffon, and Guillaume Griffon's drawing style really impresses me. I am also very inspired by traditional artists like Rembrandt and John Singer Sargent for the lighting and mood, and Gerald Brom, Jordu Schell and Carlos Huante for their imagination and the strong character of their design. Richard McDonald is also such an amazing sculptor; I just came back from his exhibition in Las Vegas and I was totally impressed.



Seeing how you're inspired by all these amazing 2D artist, have you ever been tempted to dust of your pencil and get back into doing your comic books and illustrations?

I still like to sketch ideas really quickly onto paper, but 3D is the medium that I have chosen and I really want to push that as far as I can. With software like Zbrush there is really lot of place left for artistic creation and I really enjoy it. Those artists inspire me for their ideas, styles, characters and proportions and I am sure there is way to take what I admire from those creators and bring it to the 3D world. In fact, my next goal is to





combine my experience in environment and in character to create complete digital illustrations in my spare time. I am currently working on a few one right now; hopefully I can find time to finish them soon!

How do you normally spend your time away from the computer screen?

Back in Montreal, I was spending most of my free time playing music in clubs and festivals with my gypsy-jazz band. Since I arrived in San Francisco, I haven't had much time for music; I spend most of my spare time exploring California on my motorbike and sculpting. Here at Lucasfilm they have free, traditional sculpting lessons with Richard Miller, an amazing sculptor and teacher who has worked at ILM for 25 years. He worked on all the Star Wars films (except the first one), on the Indiana

Jones movies and a lot of other great films as a concept sculptor and maquette creator. His knowledge of anatomy is way above anyone I have known in the past and I am learning so much from him.

Sounds cool! You know, I'm really intrigued by your gypsy jazz band. Can you tell us a bit about this type of music and what instrument you played? (Any chance of a sampler too?)

Sure! I play guitar. The type of music I play is inspired by the great gypsy guitarist Django Reinhardt, who was born in 1910 in Belgium and died in 1953 in France. This guy was a genius - he basically revolutionised the way guitar is played. He was an incredible virtuoso, playing with lot of inspiration and incredible speed, even if he only had two fingers left on his left hand (three including the thumb) after he was severely burned. He was playing swing, but with a lot of inspiration from his gypsy roots. The result is a very energetic style of swing call gypsy swing or Jazz Manouche. This style has become more well-known recently, especially since the animated movie *Les Triplettes de Belleville* uses a lot of music inspired by that style. We can actually see a cartoon Django Reinhardt playing guitar at the very beginning of that movie. You can listen to a few samples of us playing on the band's MySpace site: http://www.myspace.com/gadjoswing

It has been a really pleasure getting to know a bit about you Mathieu, but one last question before we wrap things up. If I were to work beside you for a whole day, what one thing would I learn about you?

Thanks, is been a pleasure for me to. Well, I do so much realistic human character development in ZBrush, that I guess you would learn how I work with that software that I love so much. The way I do clothes and accessories, especially fold and details, and the way I detail realistic human faces.

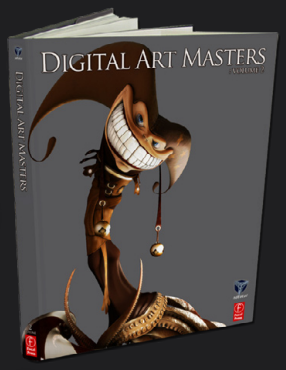
Mathieu Aerni

For more work by this artist, please visit:
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Interviewed by: Chris Perrins

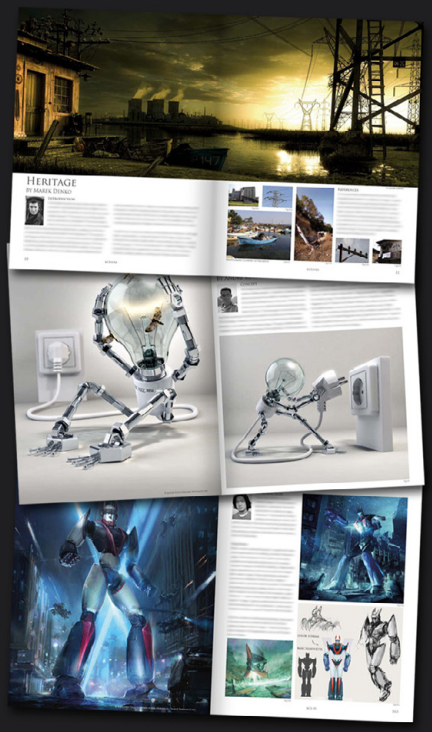



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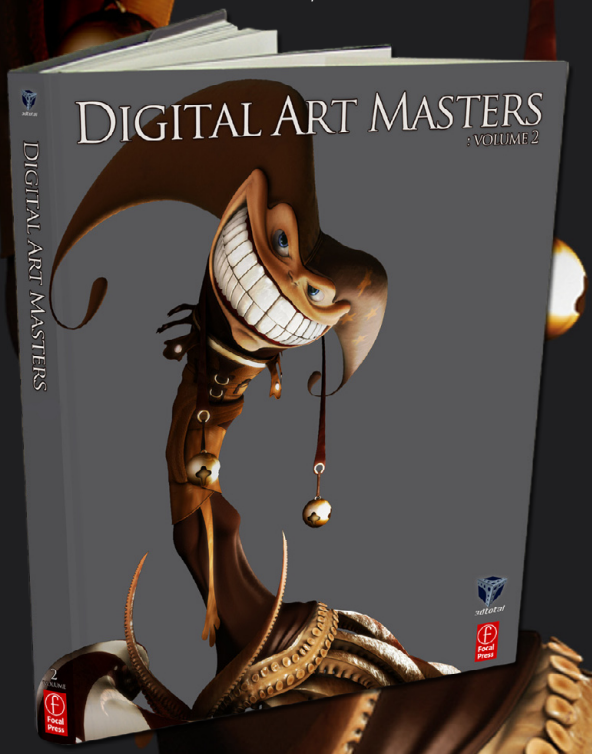
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"I love the combination of fashion, fashion photography and CGI. So I want to experiment more with CG cloth, CG fashion and CG Models ."

Blutsbrüeder are a young company, based in Berlin and more recently New York, whose aim is to perfectly blend very high quality photography and CG together. So far, working for high caliber clients in the fashion and advertising industry, Franz Steiner and his team look like they have discovered a superb niche market.

Franz Steiner

Franz Steiner

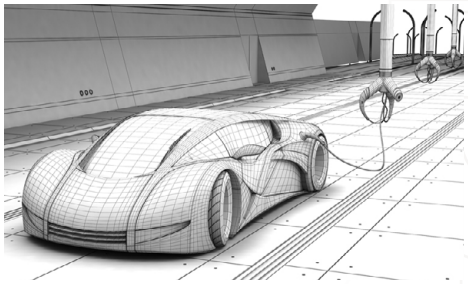


Franz, congratulations! Looking at your website (http://www.blutsbrueder-design.com/) it seems you've created a truly wonderful company.
As you came from the German Film School, why did you move into the print advertising business?

Hi Tom, first of all thanks for your interest in our work. I guess I felt that producing stills would give me more creative freedom. Starting as a freelance digital artist for film and commercials, I didn't quite feel satisfied with the available jobs at the time. I also enjoy working in small teams and photo shoots generally only involve about 10 people. Being able to use my father's photo studio helped a lot too.

It seems your company is building nicely. How many employees do you have, and how many do you hope to have by the end of the year?

Lane Tesanovic is doing business and management, and I would consider myself the creative director of Blutsbrüeder. Besides that we usually don't have more than two freelancers working with us at any one time. My goal is to improve on creativity and quality. I don't feel that I need to increase the number of people working with me too much.



If I was asked to sum up your work I would say, you take some of the most beautiful things from the real world and combine them with some of the most beautiful things from a CG world. Am I close? How would you sum it up?

I guess you are pretty close. Growing up as the son of a photographer, I never felt I wanted to do the same thing as my father. But after I got my diploma in Visual Effects from the German Film School for, I felt that there were things that haven't been tried in photography. I felt that the




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perfection that CGI provides fits quite well into the polished world of fashion and advertising photography. So we gave it a shot.



What is the hardest thing you find with compositing the CG in the photographs?
I guess finding a matching level of detail is very important. I try to keep everything clear and simple. But the simpler the composition, the more you have to work on the details to make things look really believable. To create artificial "depth of field " is also kind of tricky sometimes. And then there's the usually difficulties you have, with fuzzy hair for example. Especially if the value of the CG background differs a lot from the photo background.

Tell me a bit about your team and working pipeline. On a typical project, is there anywhere in particular that a lot of time and attention is spent? Or do you have any "Golden Rules" for your team that must be followed?
I started as a one man team. Took the photographs in my father's studio and worked on the CG backgrounds afterwards. I soon found out that I couldn't be top of the game in all the different aspects that the images consisted of, so I started to work with some talented CG artists and New York photographers to push the quality of our work even further. Now my part is usually the concept and design of the different elements. I want the model, styling, hair and makeup, and CGI set design to build a perfect union.



There is a futuristic edge to much of your work. Did you always intend for this to be the style your company would follow? Do you intend to experiment with other styles in the future?
It kind of happened unintentionally. I love to design different things



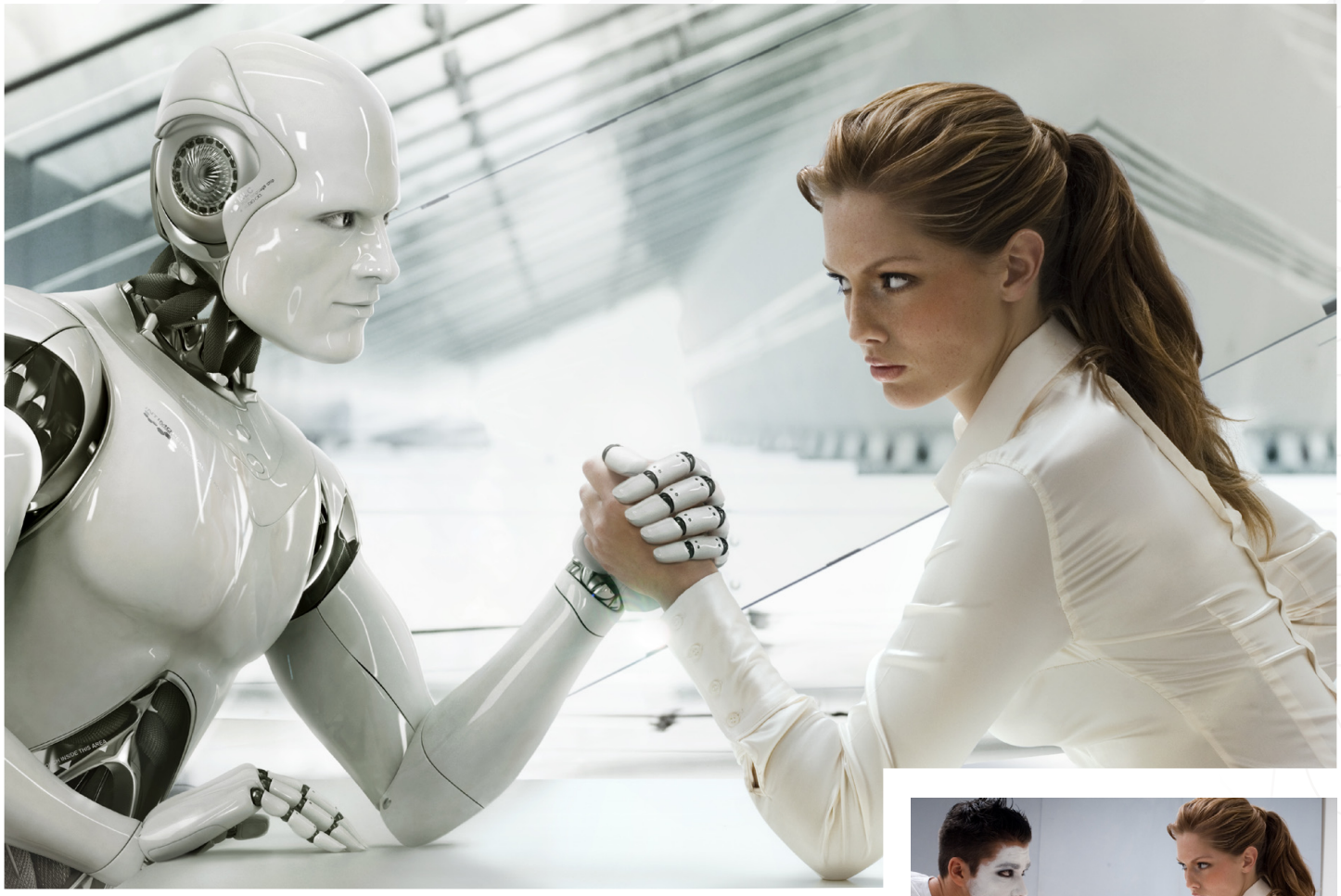
like technical gadgets and interiors. With Blutsbrüeder I have the chance to step into the position of a product designer, architect and sometimes a photographer.

Are there any particular styles you want to experiment with in future projects?

Well I love the combination of fashion, fashion photography and CGI. So I want to experiment more with CGI cloth, CGI fashion and also CGI Models.







What prompted the new office in New York?
For me it was kind of a logical step. I'm always trying to improve the quality of our work, so I simply wanted to be surrounded by people who are on top of their game.



So how do you find living and working in New York compared with your home town?
It's all about business over here. Which is why I'm here, of course, but it can also be annoying if its 24/7. Still I love the place and the people. Everything seems very temporary. Which is good because you get the chance to know and do business with lots of different people, but you don't have the kind of relationships where people have known each other since kindergarten. So business-wise it's good, but I wouldn't mind having some more of my buddies around sometimes.

It must have been quite an exciting journey for you since you established Blutsbrüeder in 2004. What would you say have been the moments that really stand out for you?
I guess the first publication in a fashion magazine was quite nice. And then the first big job for a named brand and a big German Ad Agency, which helped us to establish the



business. And, of course, our first office in NYC. Also I think that finishing our Personal-Robot story is a definite highlight because there's not much comparable material out there.

Can you give anything away regarding future projects? What can we expect to see next?
Hopefully something you haven't seen before.

FRANZ STEINER

For more work by this artist please visit:
http://www.blutsbrueder-design.com/
Or contact them at:
franz@blutsbrueder-design.de

Interviewed by: Tom Greenway

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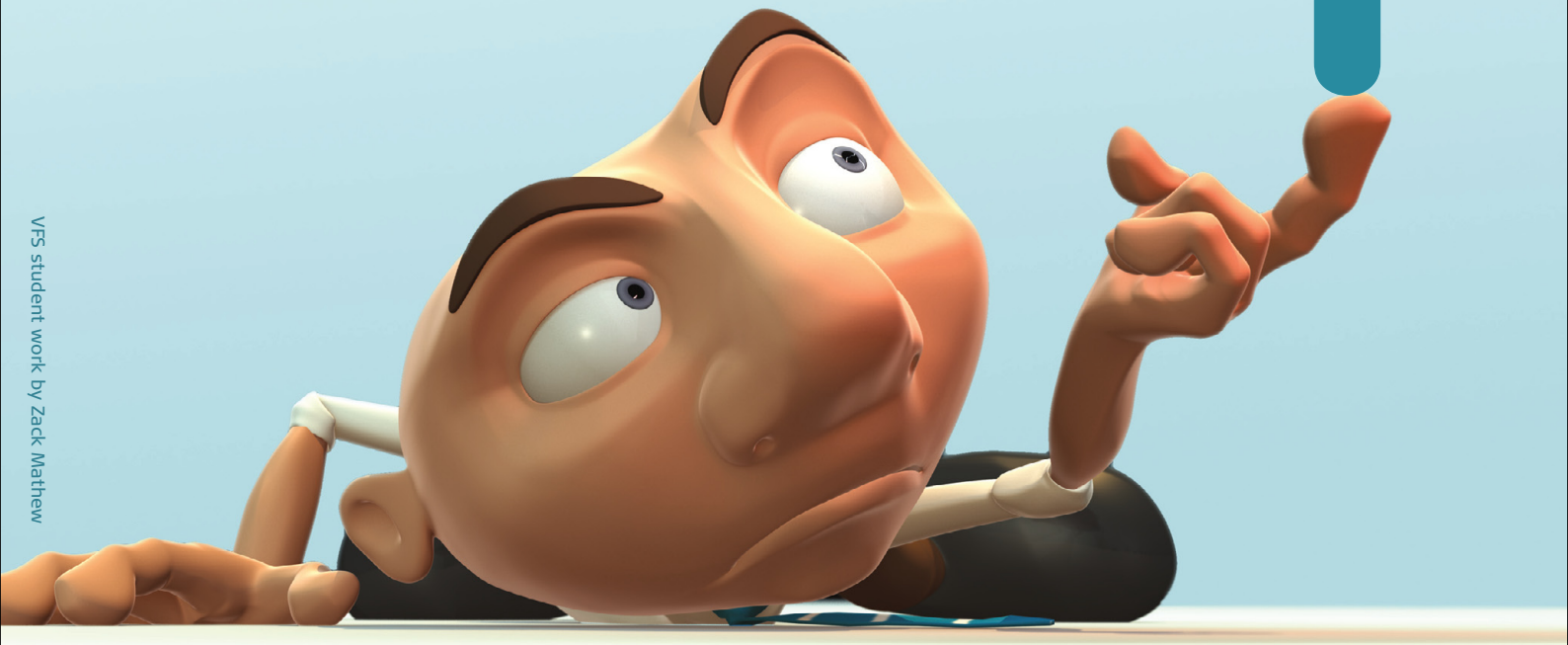
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VFS student work by Zack Mathew

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"The Snickers commercials are definitely projects that we are extremely proud of. Not only because we are very happy with the end results, but also because we had to pitch against some serious international competition! "



UNEXPECTED

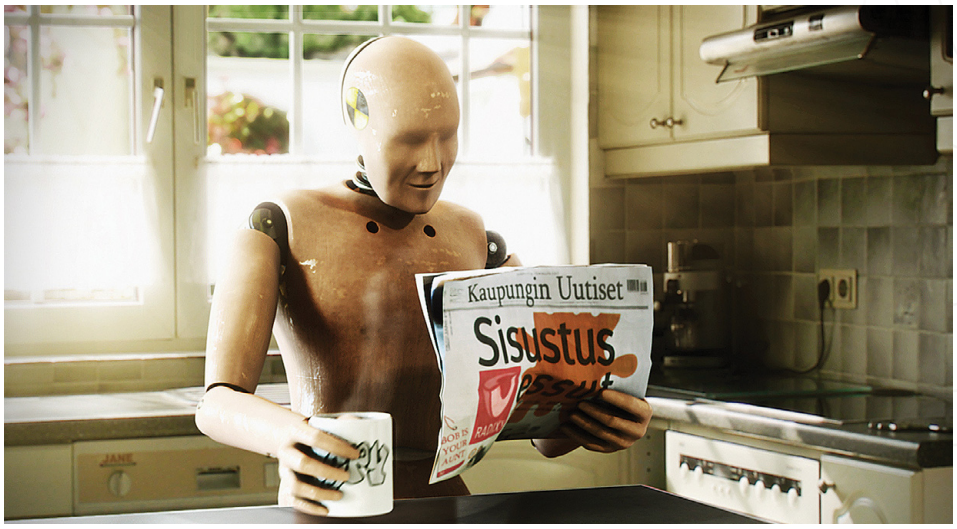
INTERVIEW WITH ALEXANDER KIESL



Snickers 'Robosoccer', 'Race' and now 'Rugby', these are the most recongnisable commercials from Unexpected. We chat with the Alexander Kiesel, head of VFX and Managing Director of this amazing studio.

ALEXANDER KIESL





Hi Alexander, could you tell us a little bit about yourself, your studio and how it all started?

I was born in 1976, my dad's a teacher and my mom used to be an interior designer. I guess that's were my creative side comes from. To be able to apply on the Filmakademie Baden-Württemberg I needed to do an internship for 12 months, so I moved to Stuttgart in 1998 to join a post-production department in a small production company. In 1999 I founded Unexpected Postproduction together with 4 friends and colleagues with whom I worked together in that production company. In 2000 I started studying at the Filmakademie where I met Steffen Hacker and Sebastian Stolle. Both worked as freelancers at Unexpected during our studies and are now permanent employees. Sebastian Stolle became our in-house designer and is – together with me – lead-animator. Steffen Hacker is our lead-compositor. After winning numerous awards (e.g. Young Directors Award in Cannes) for our final exam movie "Racing Beats", Steffen Hacker and I started directing commercials under the name "Alex & Steffen" and are internationally represented by Spyfilms, Toronto.

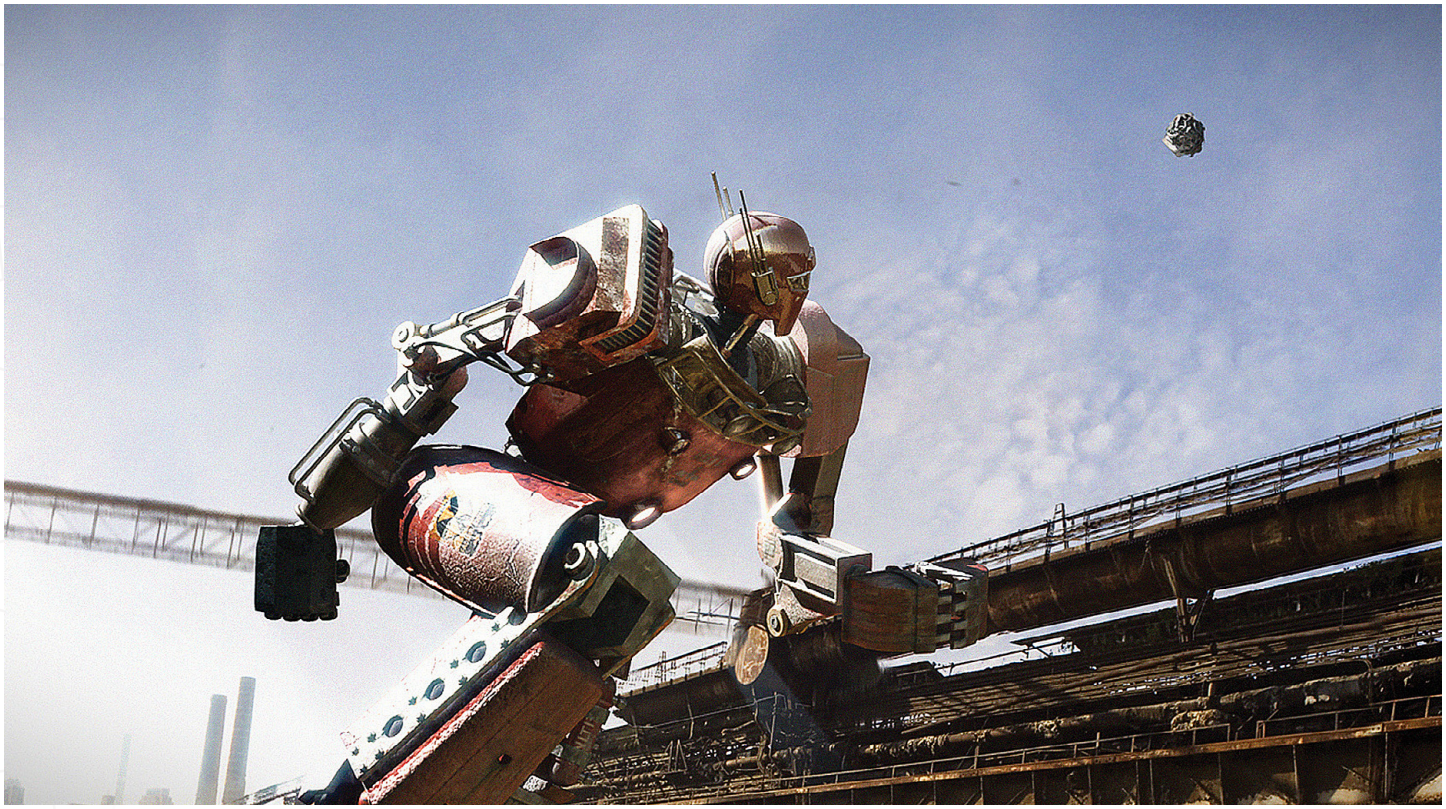


Unexpected itself is separated into thee departments: VFX, CORPORATE and DVD. The VFX Department focuses on commercials at the moment, but we also did and still do lots of visual effects for feature films. The CORPORATE department is the biggest part of Unexpected. They produce hundreds of minutes of 3D animations and visualisations for huge car and car-electronic manufacturers (e.g. Bosch). Our DVD section is well-known in Germany for their exclusive and artful menu-structures and high-end picture quality. We've been one of the first companies producing 3D animated DVD menus. Unexpected slowly grew to a team-size of about 40 artists.

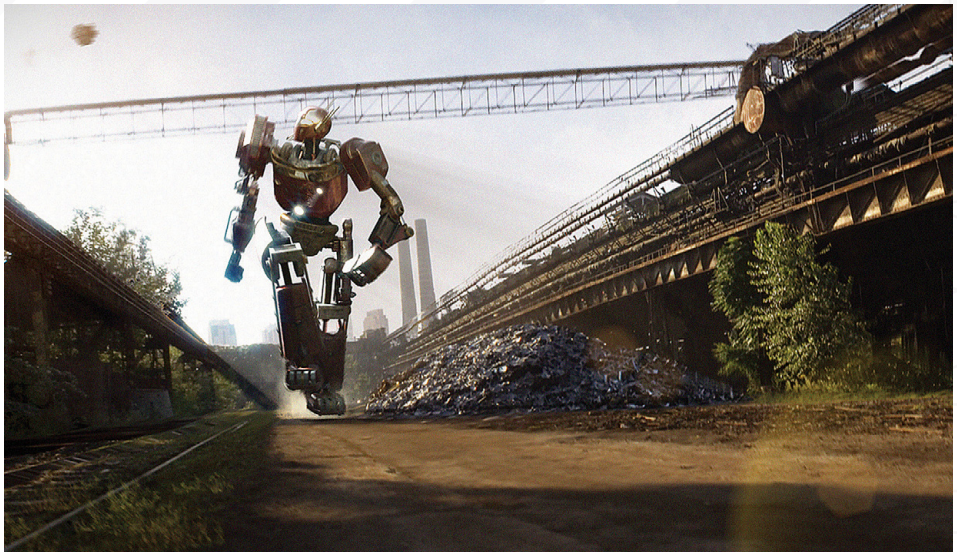


You have a very impressive portfolio, but what sticks out, to me, is your visual effects section. Would you say this is the one area that your feel your studio excels?

I would not say that the VFX department excels the rest of the departments but it catches more attention as we are lucky to work on projects which are very special and more popular… Well… I guess that's the main purpose of commercials! Compared to other postproduction houses we might have a very special kind of philosophy for working on projects. We are very creative in how we approach visual effect shots and how we solve problems and tasks. Instead of modelling and creating complex 3D environments for one shot we rather think about solutions that will end up in the same result but with less effort. It's a time saver and so you



have more time for tweaking shots at the end, a little bit more. As long as you don't see it in the end result it's a good way to go. Who needs, for example, a complex scenario which works from every perspective if you see it only in one shot and from one direction?





After the success of the Snickers commercials, 'Robosoccer' and 'Race', you have two more spots to add to the series: 'Rugby', and the recently released 'Tag'. Could you tell us how these jobs came about and where the idea behind them came from?

"Robosoccer" and "Race" have been the most successful Snickers campaigns in Russia – ever! The client Mars and the agency BBDO Moscow have been really happy with the end result and so they considered us for the new campaign, again. We had to pitch against some international directors and postproduction houses so we did everything in our power to win this pitch! We invested two weeks in a small test-sequence which explained our approach and how it could look. I guess this, in combination with the two spots we already did for the last campaign, created enough confidence to award the job to us again.
The outline of the idea came from the creative team from the agency. Steffen and I wrote a





treatment which made everything bigger and more powerful. We had some shots in mind which we definitely wanted to work on, so we added them to the story. It is always our main goal to tell a short story, not only to produce a commercial. So we tried to add as much character and interesting moments into the story as possible. And as the budget was higher than in the campaign before we wanted to completely shoot live action plates as this adds even more detail and realism to the spots, and in addition we have a higher interaction with our main actors and people on the street. Of course, there are still a couple of full-CG shots in these commercials and in some shots the live-action background was only used as a basis and we created a huge 3D environment around it to create a more action-packed camera move.



How long would a project like this take to do?
We roughly work between 2 and 3 months on each commercial. But this time includes all the preparation for the shoot and the development and creation of the characters. The postproduction alone took not more than 5 to 6 weeks!

To take that last question a little further, can you give our readers some notion of the “turn around” time for your various projects and the kinds of deadlines you face on a regular basis?
A regular pitch for a commercial takes about 2 to 3 weeks. Depending on how many treatment revisions have to be written and how many tests we allow ourselves to present to the agency, it may be even a little bit longer. This all happens parallel to the regular work. From the time the job was awarded, to the first meeting with the production company, the agency and the client, there are roughly two more weeks for preparations. After the shoot we normally have somewhere between one and two months for the whole postproduction with numerous small approvals in between. As we are involved in the planning from the very beginning we have a certain amount of influence on the schedule but not on the deadline, of course. But it happened that the original agency schedule reserved too much time for the postproduction and so we shortened it by a couple of weeks and brought forward the deadline to have more time for projects that come afterwards.

So what have been the most memorable and the most stressful projects to date that your studio has worked on?
I’d say the most memorable project we worked on was our “Even dummies wear seatbelts” spot that we produced last year. It was a spot about road safety we made for Finland. Because of budget restrictions we had to shoot this commercial in Stuttgart and surroundings, but everything had to look like it took place in a





mix of Finland and the “Truman Show”, so we spent a couple of days driving around to find suitable locations. The whole shoot and the postproduction was kind of guerrilla style, but in the end nobody could tell that everything was more or less improvised. It was really fun!

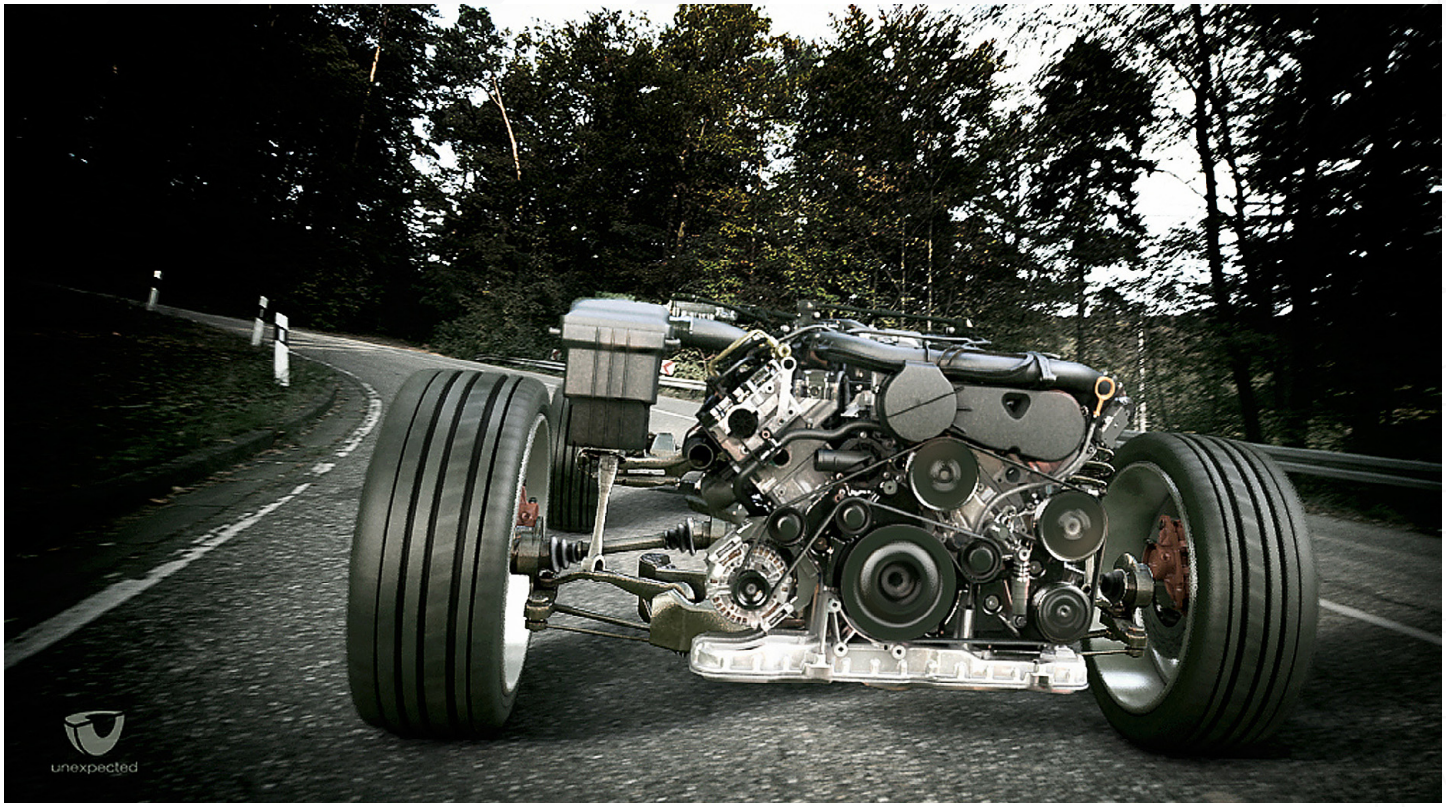
The most “stressful” project was our first international commercial for the “World Wildlife Fund” as we did not know at all what we had to expect. It was the first spot we directed and post-produced at the same time. The spot had to be delivered 8 days after the shoot in Vancouver, so we came back and immediately started working on it. All of a sudden it had to be delivered two days earlier due to changes of the media plan, so our team literally stayed in front of our computers for five days with almost no sleep to get everything done in time. It even happened that I animated a shot and somehow I still don’t remember how and when I did it! It was stressful but somehow fun, too. And we really got to know how fast the commercial world can be and what kind of pressure our team has to bear.

So what’s next on your agenda?

We just finished shooting a new car commercial for Honda. The deadline is the beginning of June so we’ll be spending some time in front of our computers for the next weeks. It is the complete opposite of what we do, normally – way more graphical, fine camera moves and a very calm and moody atmosphere! We shot all the background on a real set on 35mm and we’ll add various different characters into the scenes. We’ve always wanted to shoot a car commercial and the fact that we have the chance to create something with a completely different style than anything else we’ve done before is very alluring. After that we’re directly heading into a new project for the Russian market again… and no, it’s not for a chocolate bar *grins*.

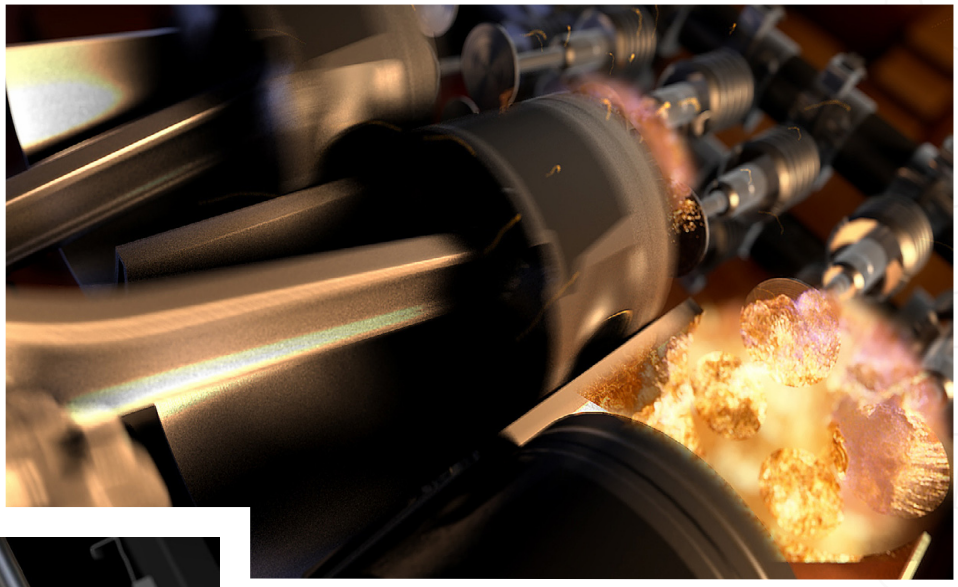


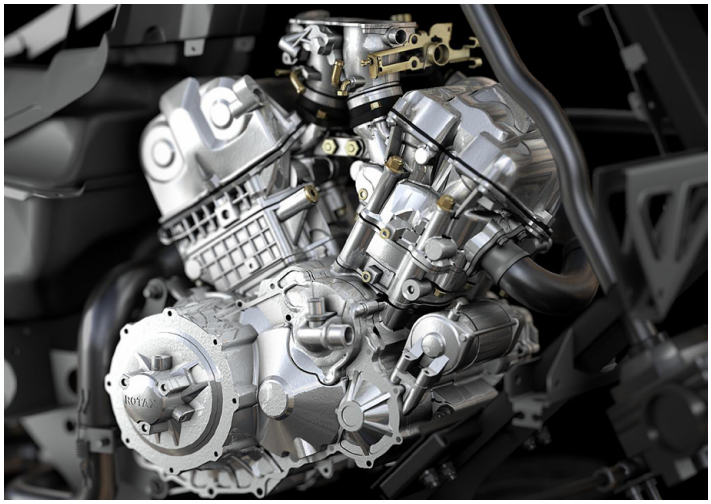




Talking of car commercials, your client list does seem to include a number of car manufacturers. Is this the result of a proven track record or just that they prove to be good and reliable sources for work?

I would say it is a mixture of both. On the one hand car manufacturers, or to be a little bit more specific “car electronics manufacturers”, like Bosch for example, are a perfect client and partner to base parts of a company on. Here we really have the chance to propose new kinds of technologies, new ways of presenting their products and lots of ways to pack their





technology into short stories to make the presentation more interesting for the OEMs and the customers. There is always a lot of development going on as there are tonnes of new tasks every year. Car exhibitions like the IAA, Tokyo Motor-Show or the Motor-Show in Geneva are always huge events for our clients. And of course they want to present themselves always in an improved way from year to year, which makes the whole thing a very interesting part of the business as the relationship with our clients keeps evolving all the time. And we have to keep in mind that the area around Stuttgart is the home of Mercedes-Benz and Porsche and is therefore full of car-based industries, so it was one of the first steps for Unexpected to get a close connection to this kind of industry.



Sure, that makes sense. So of all the projects you've worked on to date, which are you most proud of and why, and which have been the most fulfilling in terms of the difficulty curve they presented?

The Snickers commercials are definitely projects that we are extremely proud of. Not only because we are very happy with the end results, but also because we had to pitch against some serious international competition! The Russian agency really shopped big and nobody took neither Unexpected as a serious postproduction company, or "Alex & Steffen" as a serious directing duo. But in the end, our persistence and our will was strong enough to get this job



and to get it done in exactly the way we wanted it. Of course, these spots were very demanding and difficult and the expectations have been very high on both the clients and our side, but this pushed us even more.

What are the main drawbacks with offering such a variety of services and skill sets across a number of industry sectors, and do you require multi-skilled staff as a result?

We always wanted to be based in more than one sector. Each sector is based on the motivation and the enthusiasm of one or two of the five managing partners/directors. Everybody was able to choose the field of business he thought was worth working in. This way we make sure the motivation is kept on a high level as everybody has the freedom of developing and shaping each department the way he wants it. So we have three specialised sectors in one company with a certain amount of overlapping competences. I think you have to enjoy what you're doing as this is the biggest motivation one can have to run a business. Somehow it feels like we've all turned our hobbies into our jobs, and this also applies for our artists.

We have lots of specialised artists, but the biggest part of our staff is multi skilled. Of course, we separate in 2D and 3D pools.





Finally, what, if any, are the areas your company would like to expand into more in the future?

At the moment we want to push stronger into the commercial world. We are also very interested in the interactive sector as is a very interesting field of business with lots of possibilities.

ALEXANDER KIESL

For more work by this artist please visit

http://www.unexpected.de

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Interviewed By : 3DCreative



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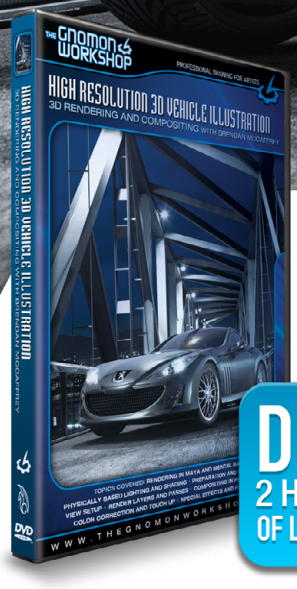
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"It's better to master one thing and reach perfection in it, because nobody can be perfect at all things."

Jack of all Trades or Master of One?

This month, we have asked 3D artists from a variety of backgrounds and locations around the world:

Jack of all Trades or Master of One?

Here's what they said...

Jack of all Trades or Master of One?


image by: Eugenio Garcia

Ali Ismail

Digital Artist, Lucasfilm Animation, Singapore.

A freelancer should certainly be a jack of all trades, but being part of a team in a big project would require you to master one skill to the fullest.

Anders Lejczak

Project Manager, Framfab, Malmoe, Sweden.

Depends on your role within a project. The project manager should be more of an all round person, but the project members should have one or two fields of expertise.

André Holzmeister

I believe it is best to learn everything and master one particular trade. I can do modelling, lighting, shading, rigging, render and working for mastering my animation skills.

Andre Kutscherauer

3D Designer, Studio Messslinger Gmbh, Munich, Germany.

Lighting, rendering and composition.

Bogdan

You have to know a little bit of everything and master at least one.

Cesar Alejandro Montero Orozco

CG Artist & Freelancer, Digi-Guys, London, UK & Mexico.

Jack of all trades, and hoping to be a master of lighting.

Dana Dorian

Director, Axis Animation, Glasgow, Scotland, UK

I think it is better to be a master of one skill and be good at any skills that support that master skill. Like a master modeller should be good at texturing. I feel this is better than being a jack of all trades, because people who can do everything are rarely the best at any of them.

Daniel Vijoi

I like to be able to experience as many different fields as I can. From 2D to 3D; traditional work to concept art and design etc - it's awesome to be able to work with different programs and techniques and then combine them to make in the end a masterpiece. But I think if one wants to work in a particular area then it's better to focus on excelling in that particular field.


image by: Dana Dorian

Eric Provan

3D Modeller, Sony Pictures Imageworks, LA, USA.

In my opinion, my strongest skill is modelling. It's what I've focused on the most. However, I do strive to be a jack of all trades because I feel that understanding all the aspects of CG will only make me a better modeller. My biggest foe at the moment seems to be animating.

Eugenio Garcia

3D Illustrator & Animator, GrupoW, Saltillo, México.

Jack of all trades.

Gustavo Groppo

General 3D Artist, Mamute Mídia, São Paulo, Brazil.

Artists with great effort should be the masters of all the things they want.

Hasraf Dulull

Visual Effects Artist, The Moving Picture Company, London Soho.

Some studios like jacks of all trades, but if you go for bigger studios then they tend to hire specialists such as lighters, riggers,

compositors, match movers etc. I chose to focus on compositing so that I could become really good in that and then agencies and other studios who wanted compositors would get me on their list.

Jure Zagoricnik

Web Developer & 3D Freelancer, Hal interactive & 3D Grafika, Kamnik, Slovenia.

I am trying to cover as many areas as possible.

Liam Kemp

I'm really a bit of both, so I'd be lying if I said either one.

Matt Westrup

Depends what you enjoy doing. If you enjoy only one aspect then become a master of it. There isn't any point in trying to be a jack of all trades if you don't enjoy the process.

Michael Seidl

3D Artist, Modelling & Rendering, www.michaelseidl.com, Vienna, Austria.

Master of one, or maybe two. I have the most fun by doing light setups and making all kind of shaders. I can spend hours and hours thinking about how to solve different light setups, or making my own HDRI.

Neil MacCormack

Freelance 3D artist, Bearfootfilms, Geneva , Switzerland.

At the moment: jack of all trades.

Nicolas Collings

It's all depends on your objective. If you want to work in big company, I'd definitely say "master of one". And if you want to work in a small or medium company then "jack of all trades".

Pedro Mendez

Master of one. While it's good to be able to work in lots of different areas, you also need to define what you want to be recognised for.



image by: Sean Dunderdale

PETE SUSSI

Depends on why you're doing it. Common logic states that if you're looking for a job in CG then get good at one thing. If it's for a more personal reason, then try it all! There are a fair amount of talented artists who are great at many things. If we pigeon-holed artists into one thing ... then there would have been no Michael Angelo!

PETER SANITRA

3D Artist, imagesFX, Prague, Czech Republic.

Jack of all trades.

PETRA STEFANKOVA

Everybody has a different approach and there are many artists who are able to master several styles at once. I prefer working with two original styles. It's much easier to compile the portfolios, constantly develop the styles and market them to the various industries. My personality tells me to come up with something unique rather than to copy the style of someone else. And it's good when people can recognise the artist for his or her style.

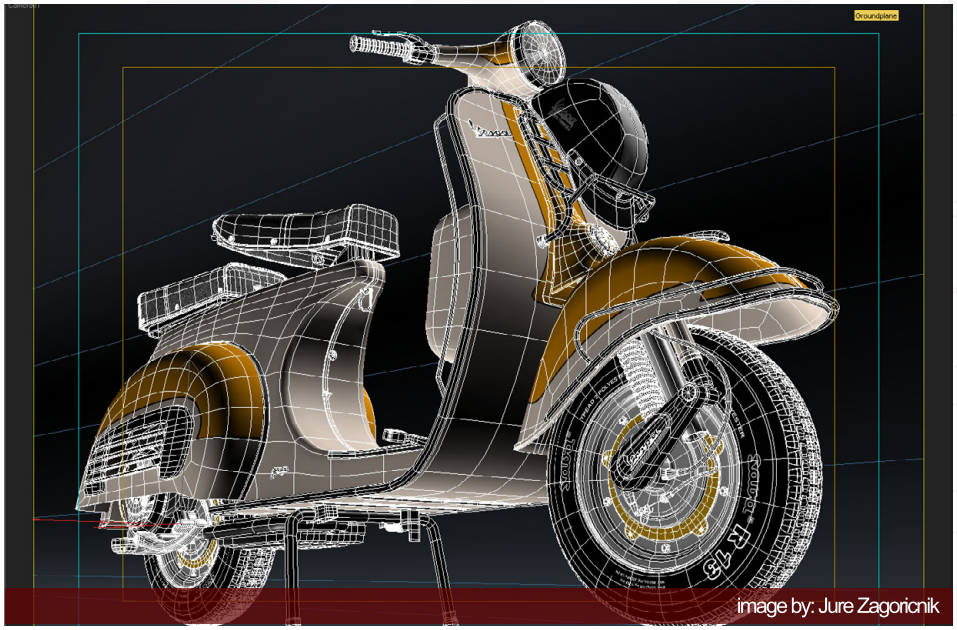


image by: Jure Zagoricnik

RICH DIAMANT

Combination. If you really want to stand out, it's best to be a master of one and good at one to two others (if not more). The more you know, the more useful you will be. It'll only help your career to have a broader knowledge of everything. Just make sure to stand out in at least one area, otherwise you might have a hard time finding work!

SEAN DUNDERDALE

Well, as the guys say at work "if you're good at everything, you're not great at anything". But I still see myself as a generalist, probably because I'm still new to the industry.

SORIN RADU

It's better to master one thing and reach perfection in it, because nobody can be perfect at all things.



image by Anders Lejczak

STEPAN (O)NE GRAKOV

I prefer to have knowledge and experience in lots of different areas (modelling, texturing, rendering, using different software). I need it because I want the work I produce to be exactly as I plan it out in my thoughts. It takes time and energy to explain to other people what I want to do; in most cases it's easier for me to show it.

SVEN RABE

3D Artist, Germany.

I think it's always beneficial to know something about the whole process, rather knowing only one specific part of the game. Of course you can't be a master of everything, so I think it's important to build your knowledge around your main talent. That's your base for everything.

TIZIANO FIORITI

Freelance 3D Artist & Digital Matte Painter, Italy.

The market needs people to be profitably able to use all their knowledge and focus their efforts on the areas that they have a particular gift in. We have to concentrate our energies on a particular field and channel them in an effective way. However it is also very important for us not to stint ourselves and to be curious about the most unlikely aspects of our profession. The epilogue is never predictable.

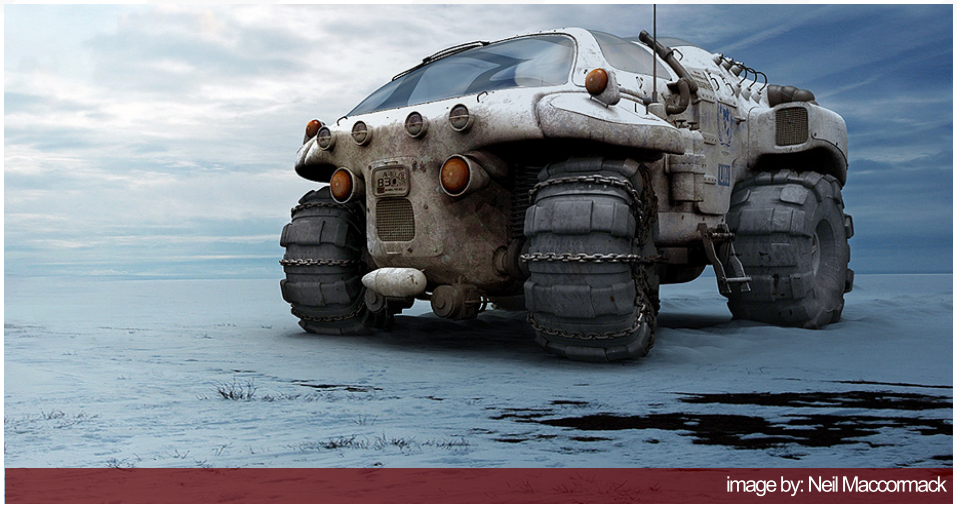


image by: Neil Maccormack



image by Petra Stefankova

TYCANE

3D Developer & Designer, NDG, Amsterdam.

Well, I'm sure there are people who can do it all, but I'm strictly a modeller/ texturer/ shader. I can animate and know a lot of the basics, but I never went into animating that much, mainly because of the render time. I like making cool things and my view on cool things take a lot of time to render. It felt pointless to let my computer render for three weeks for a short of 20 seconds of animation, so I never bothered with that. (But give me a render farm and I'll make something cool no doubt!)

VOJISLAV MILANOVIC

General 3D Artist, Animated Biomedical Productions, Sydney, Australia.

A master of few, but with strong insight into other trades.

ZDENEK URBÁNEK

Student,, Liberec city, Czech Republic.

Jack of all traders, I believe. I'm quite versatile - or rather, I've been trying to be versatile in both CG and life!

Join us next month when we ask:

HOW DID YOU GET EXPOSURE WHEN YOU WERE STARTING OUT?

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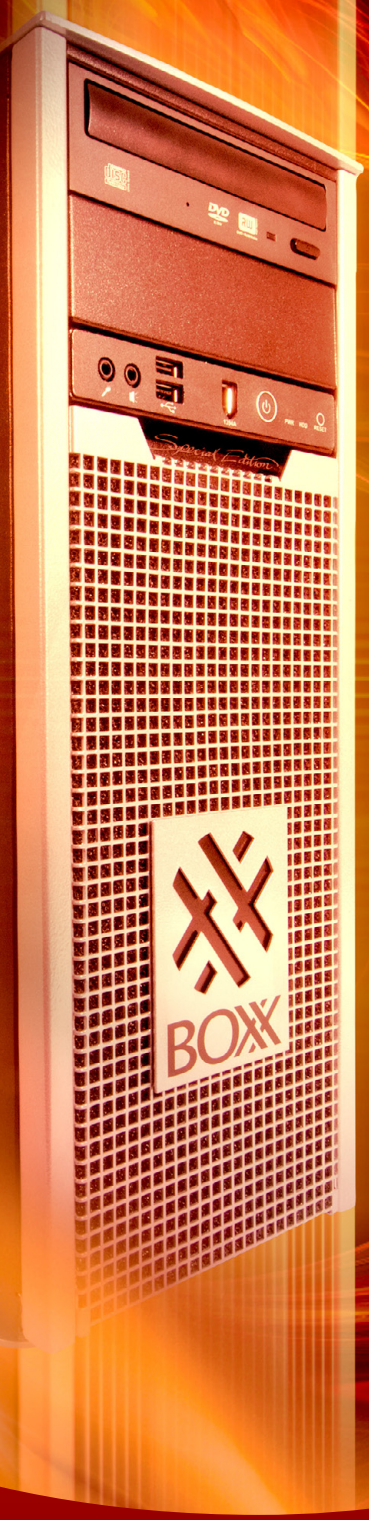
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Sway studios pays homage to the classic 1983 arcade game *Spy Hunter* to energise their two new campaigns for Pontiac.

SWAY studio's work on the new action-packed campaign introducing the 2008 Pontiac G8 explodes from the screen with thrilling driving action and great-looking CG environments. Currently airing nationwide, *Spy Hunter* and *Mine*, both 30 second spots for Leo Burnett, Detroit, were created using SWAY's renowned photo-real lighting techniques, as well as its secret weapon, the proprietary Drive-A-Tron™ driving simulator.



Spy Hunter

An homage to the classic 1983 Bally Midway arcade game, *Spy Hunter* opens with the vintage graphics and addictive theme music that captivated arcade fans over two decades ago. Under attack by a Switchblade vehicle wielding wheel-mounted tire slashers, the beloved G-6155 Interceptor is destroyed by the Mad Bomber helicopter. As the red truck pulls up to replace the hero car, a seamlessly integrated photo-real Pontiac G8 appears and races down









the ramp. Swerving around, dropping bombs and out-maneuvering enemy cars, it quickly leaves its nemeses in its dust.

"After carefully studying the intricacies of the original game, it became imperative that we created a fully 3D world respectful of the game's intense popularity," said Mark Glaser, SWAY's creative director, who also directed the spots.

To showcase the superior performance of the G8, SWAY introduced several "close call" hazards, such as tight turns, a large water puddle and a giant explosion. SWAY's proprietary Drive-A-Tron driving simulator, which allows for real-time, interactive, accurate and realistic automobile animation, was even programmed to include Pontiac's StabiliTrack

and anti-lock braking. This gave the CG G8 more traction control and quick stopping capability.

Mine

Mine showcases a beautiful virtual playground, full of high-speed twists and turns. Sharp gradients, incredible turns and a giant loop add to the excitement of the life-size Hot Wheels track.

For this spot, SWAY built a sleek and modern environment in CG, where all components and lighting features were designed to appear true to real life, in an effort to create a believable event spot. It takes place inside a giant blimp hangar, which in reality would be the only location large enough to house the construction of such a track. Once the track was complete, SWAY animators, as well as the agency, were able to virtually perform all stunt driving using the Drive-A-Tron simulator.

Realistically, *Spy Hunter* and *Mine* could only exist in fully CG worlds, yet it was important that the G8 could perform precisely as the actual car would. “The use of the Drive-A-Tron







allowed us to create the action very efficiently and effectively," said Chris Nichols, SWAY VFX supervisor. "The stunt driving performed by the simulator was possible due to the use of real physics simulation to achieve all the driving action, resulting in no actual animation of the G8 in either spot. This campaign really showcases just how sophisticated the Drive-A-Tron technology is."



About Drive-A-Tron™

SWAY studio's proprietary Drive-A-Tron™ provides a significant advantage over other studios. The driving simulator allows the reproduction of any automobile's exact movements. Instead of using traditional animation techniques, Drive-A-Tron allows SWAY artists to literally get behind the wheel and drive the car on even the most challenging







CG terrain, creating the desired performance without compromising the reality of the driving. Drive-A-Tron has been used to create stunning visual effects and spots for Chevy, Mazda, Pontiac, Subaru, Hyundai, Hummer and Toyota.



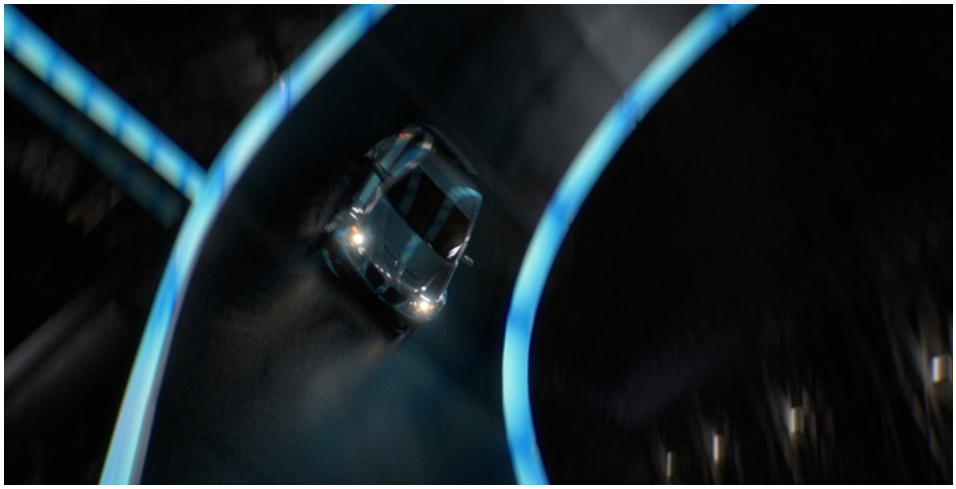
About SWAY

SWAY is one of the top animation, effects and design studios in North America, with the aim of advancing the artistry of visual content, enabling exciting new creative ideas in any media. SWAY's world-class artists use cutting-edge and innovative technology to produce unforgettable imagery.

SWAY's headquarters is located in Culver City, Calif. For additional information on SWAY studio, visit its website at www.swaystudio.com.

Pontiac G8 *Spy Hunter* & *Mine* Credit List

Advertising Agency: Leo Burnett, Detroit
Senior Producer: Jennie Hochthanner
Executive Creative Director: Jeff Cruz
Senior Art Director: Jesse Rea
Senior Copywriter: Regina Cesarz











Production and Visual Effects: SWAY studio

Director: Mark Glaser

VFX Supervisor: Christopher Nichols

Compositing Supervisor: Chris Bankoff

Technical Director: Graham Fyffe

3D Lead: Daniel Buck

Animation Lead: Robert Glazer

Look Development (*Spy Hunter*): Rob Meyers

VFX Animator: Mike Walls

3D: Jeremy Jozwik, Matan Abel, Erik Fernando, Derek Blume, Steven Wang, Derek Smith

Compositors: Aaron Kupferman, Hudson Shock, Christian Schermerhorn

Editors: Lauren Mayer-Beug, Peter Tarter (Cutters)

VFX Producer: Erin Hicke

VFX Coordinator: Justin Herber

Tools Used for VFX (*Spy Hunter*):

SWAY Drive-A-Tron™ Driving Simulator
Assimilate's SCRATCH
Autodesk's 3ds Max
Autodesk's Flame
The Chaos Group's PDPlayer
The Chaos Group's V-Ray
The Foundry's Nuke
Next Limit's RealFlow

Tools Used for VFX (*Mine*):

SWAY Drive-A-Tron™ Driving Simulator
Assimilate's SCRATCH
Autodesk's 3ds Max
The Chaos Group's PDPlayer
The Chaos Group's V-Ray
The Foundry's Nuke

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SWAY STUDIO

For more information please visit:
http://www.swaystudio.com
Or contact:
info@swaystudio.com

VANISHING POINT

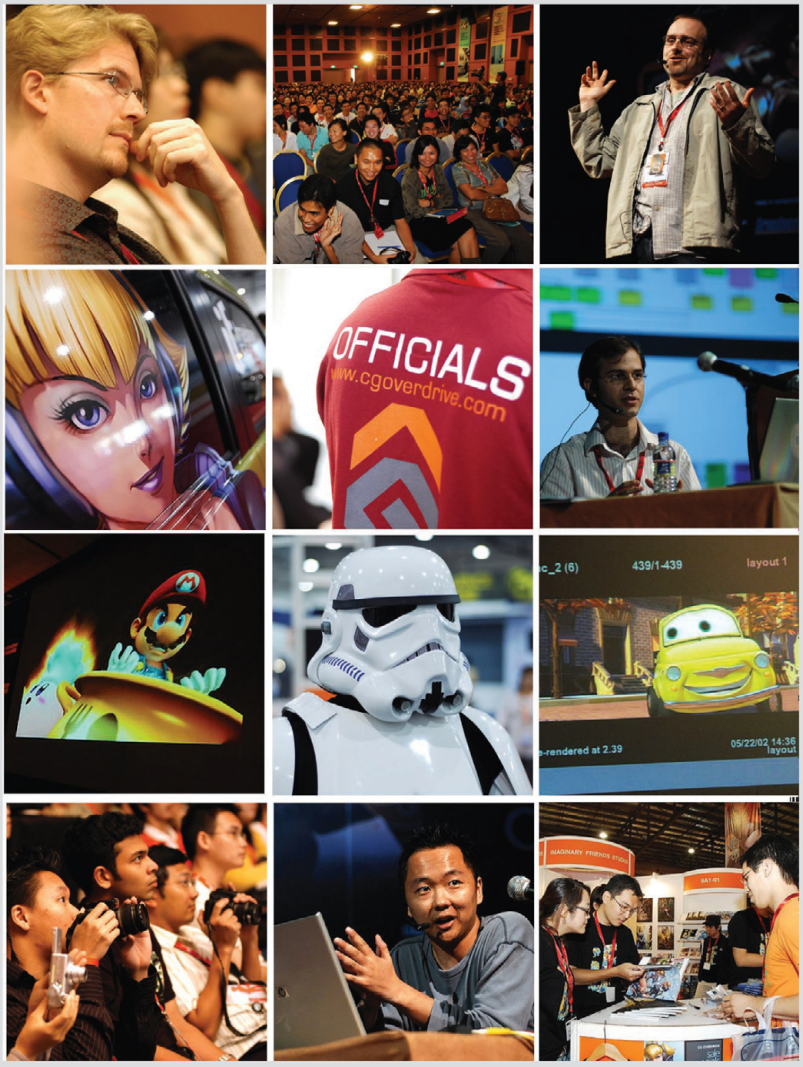
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Alper Kilic

Malanjo

CHEVisodes

Greg Petchkovsky



SCREWMAN

Marcin Szałek

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Fern

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squeezestdio@hotmail.com

Don't miss out on the Making Of 'Fern' on PAGE 115 in this very issue of 3DCreative!



Ford Mustang Fastback '65

Pâşlea Paul

paslea.paul@gmail.com







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Bunny is Tired

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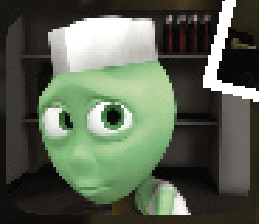
"Getting to spend my day creating peformances and bringing characters to life is so incredibly awesome, and I can't believe I get to work on such a cool project straight out of school. I'm so glad I had the opportunity to learn character animation in such a challenging and supportive environment."

- Aja Bogdanoff
Animation Mentor Graduate
Blue Sky Studios







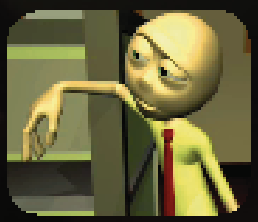




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- Mike Stern
Animation Mentor Graduate
DreamWorks Feature Animation







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the 3DC challenge

3DCreative Magazine introduces the 'Challenge' section of the mag. Every month we will run these challenges, available for anyone to enter for prizes and goodies from the www.3dtotal.com shop, and also for the chance to be featured in this very magazine! The 2D challenge runs in the ConceptArt.org forums, and the 3D challenge runs in the Threedy.com forums. Here we will display the winners from the previous month's challenge, and the "Making Of"s from the month before that...

Executioner!

Stylised Challenge

(c)istockphoto.com/Arkadiusz Fajer

In Association with CONCEPTART.ORG THREEDY FORUMS

Stylised Challenge

Executioner

The Challenge

Welcome to the Stylised Monthly Challenge. Each month we will select a character and post some images in the forum thread as references. All you have to do is to create a 3D image of this character in a stylised/ abstract/cartoon style, whilst keeping your entry instantly recognisable.



9th Darkmatter



8th Nato_VanDookie



8th Pants



7th mythman451



6th Noviski

We wanted to publish some content in 3DCreative Magazine on how to create stylised animals and characters, such as you see in the many feature films and cartoon galleries. We thought this regular competition might bring in just the images and “Making Of”s that we need, whilst giving away great prizes and exposure. If it’s successful, we will try to boost the prizes up as much as possible! This month’s character was the Executioner; here you can see the top nine entries, as voted for by the public.

What are we looking for?

Funny and humorous entries that break the character down into its most recognisable components. Emphasise these in whichever ways you wish and render your stylised/ abstract/cartoon masterpiece. The rules are pretty laid back: please submit 1 x 3D render (minor post work is okay). It’s up to you if you want to have a background or if you want

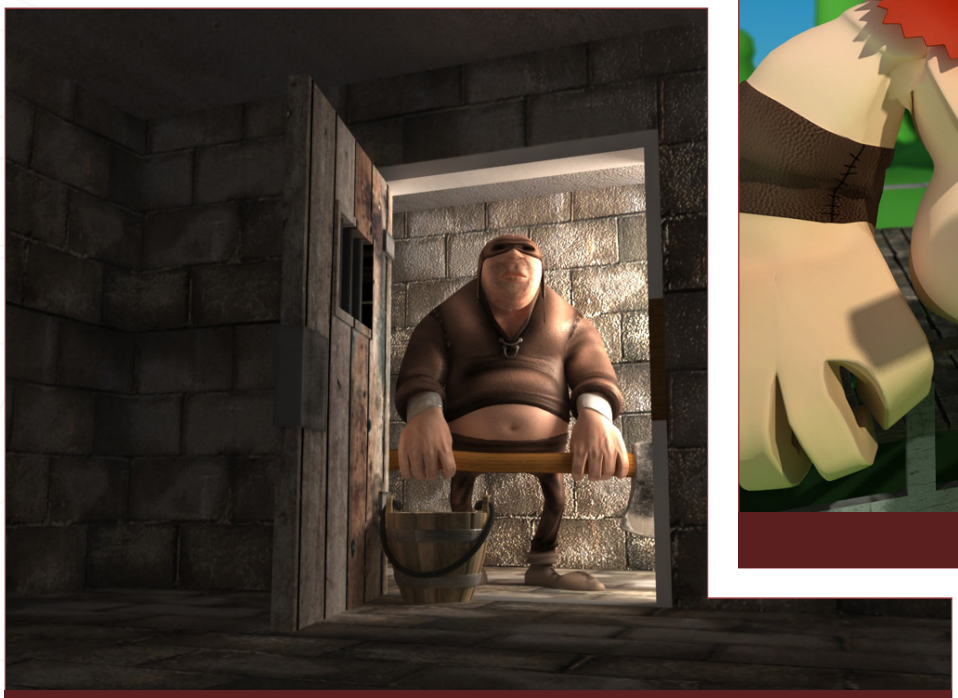
include some graphical elements or text on your image. Renders of the 800 pixel dimension sound about right, but the winners will be featured in 3DCreative Magazine, so if you can create some higher resolution images too, all the better!

There will be one competition per month, with the deadline being the end of the month (GMT). For a valid entry, just make sure your final image is posted in the main competition thread before the deadline. We require the top three winners to submit "Making Of" overview articles that will be shown on either 3DTotal.com or in 3DCreative Magazine. These need to show the stages of your creation, different elements, and some brief explanation text of why, and how, you did what you did. We will format this into some nice-looking pages to give you some great exposure, and us some quality content.

Each competition will have one main thread, which starts with the brief at the top. All entrants should post all WIPs, give feedback, and generally laugh at the crazy ideas that are emerging each month!



5TH MISTIK



4TH DRALETO



3RD CHUBU guyzinger@gmail.com



2ND DADDYDOOM

CHALLENGE THREAD

The entire THE EXECUTIONER! competition can be viewed here.

The current challenge at the voting stage is:
CAVEMAN

The current challenge taking place is:
CARNIVOROUS PLANT

To join the next challenge, or to view previous and/or current entries, please visit:
www.threedy.com

Or, for the 2D challenge, please visit:
www.conceptart.org
Or contact: lynette@zoopublishing.com



1ST STROGGTANK

2D Challenge

Here are last month's top entries from the 2D side of the challenge...



3rd Tommoy

http://www.thecartoonfactory.nl
info@thecartoonfactory.nl



2nd daveneale

http://www.daveneale.co.uk/
davejneale@hotmail.com



1st Chuck,mate



Making Of's

Here are the "Making Of" from last month's top three winning entries...

3rd Pants

Concept

After searching for hours on the Internet for images of a bull, I finally sat down and started doing some concept sketches. The style I was going for was to emphasise the muscular structure of the bull's front end to create a menacing look, and then place him in a funny situation to create a contrast. After several failed attempts at creating the look I wanted for my bull (**Fig.01**), I consulted a friend to help me since he has a more defined style to his illustrations. With his drawing in hand (**Fig.02**) I quickly fleshed out a scene (**Fig.03**) and could finally start modelling.

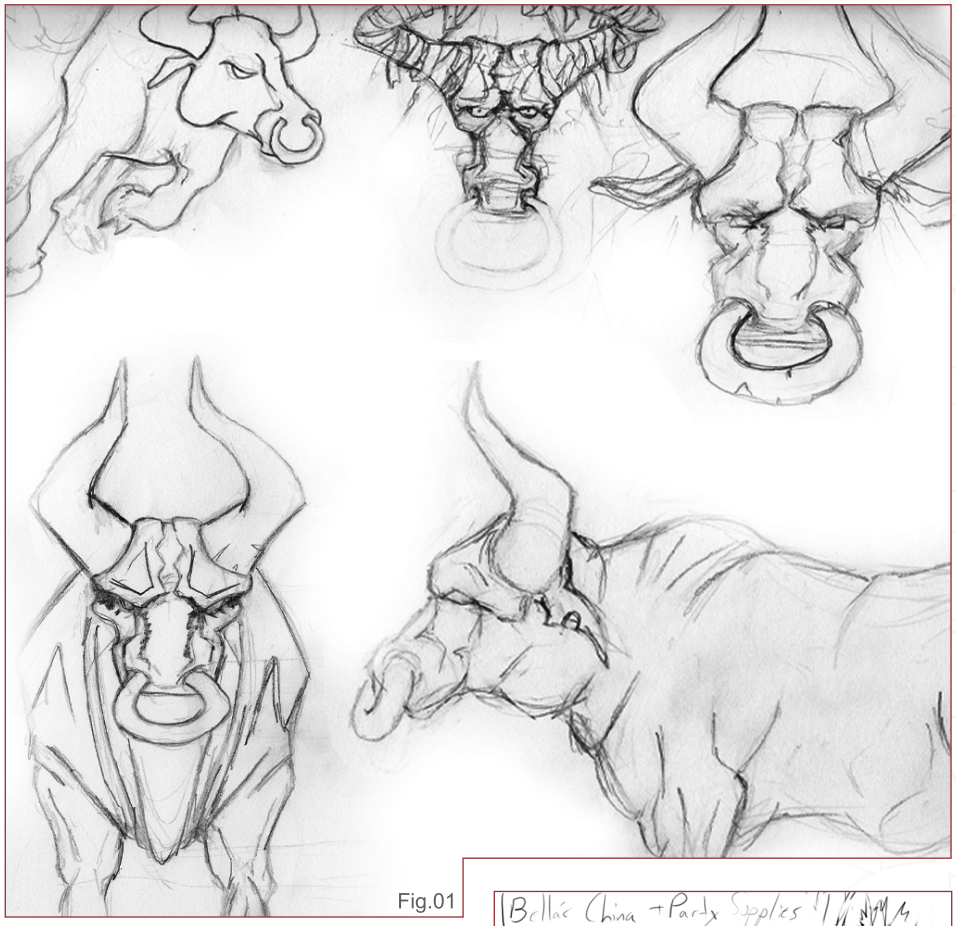


Fig.01

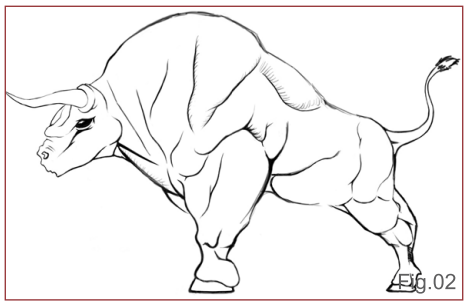


Fig.02



Fig.03



Fig.04

Modelling and Texturing

The modelling phase of this bull was a unique experience for me, since it was my first attempt with Zspheres in ZBrush. These tools are excellent for creating organic models and textures quickly. The process I found to be the most beneficial was to take the basic Zsphered model (**Fig.04** and **Fig.05**) into 3ds Max, add all my hard edges (such as on the hooves,) add any other necessary edge loops, and finally bring it back into ZBrush for more tweaking (**Fig.06** and **Fig.07**). I repeated this process several times to get the desired look I wanted.

When I finally had the basic form I was looking for, I unwrapped the model in Max (**Fig.08**) and textured him with ZBrush (**Fig.09**). I then dumped out a normal map (**Fig.10**) and a texture map (**Fig.11**) and slapped them on an exported model in 3ds Max, leaving myself a workable low poly, highly detailed model.


Fig.05

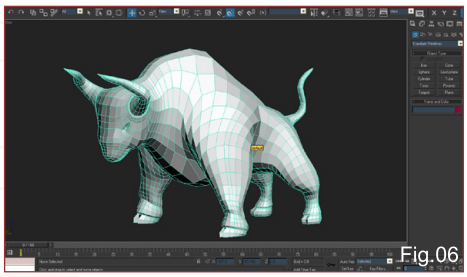

Fig.06

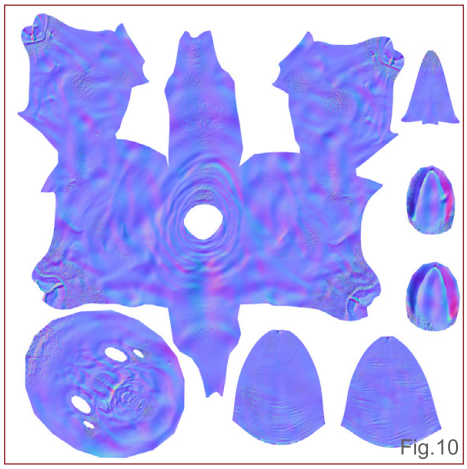

Fig.07

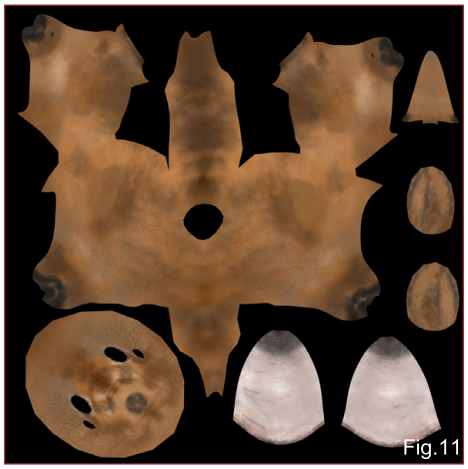
Rigging

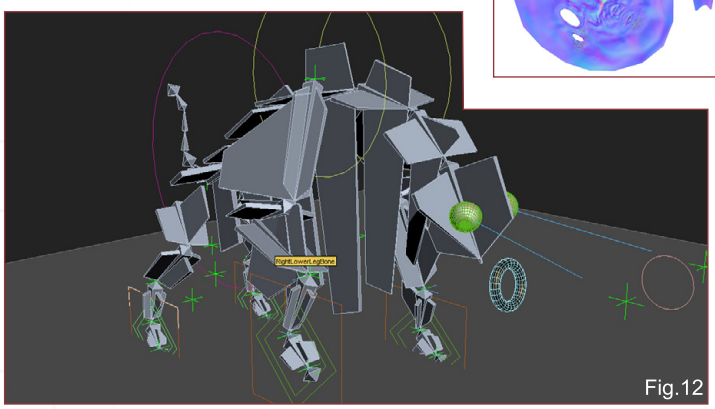
This competition provided me with an interesting opportunity to parallel the project with a school assignment. My teacher purposely made the assignment a “stylized animal” so those who wanted to participate in this competition could. Therefore, rigging the character was necessary. The structure I laid out with bones is similar to a bull’s actual skeleton so that its motion would be similar to that of the real thing. I started with the spine, creating it from the head down. Then I made the legs from the top down using three IK solvers: one from the upper leg to the lower leg, one from the lower leg to the ankle, and another from the ankle to the hooves. Then I linked those solvers to points located in the same spot, and those points were then linked to controls that were the bases for articulation (**Fig.12**). The shoulder bones were linked to a point at the top of the leg chain, which was linked to another spline control that rotated the whole leg. Although complicated, this was an excellent quadruped rig and provided for a full range of realistic movement (**Fig.13**).


Fig.08


Fig.09


Fig.10


Fig.11


Fig.12

Making the Scene – Modelling and Lighting

Finding a suitable composition that was both humorous and intriguing was a very difficult task for me. My first iteration of the scene involved

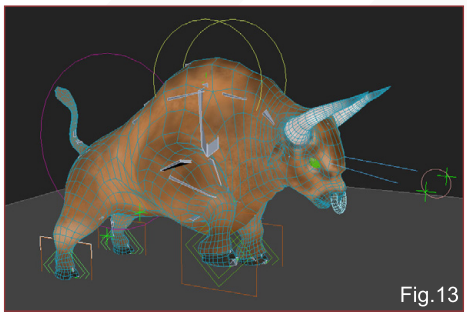

Fig.13


Fig.14

the bull smashing through a window (**Fig.14**). Although cool looking, I had to scrap it to try to achieve some sense of humour. I used the smashed glass that I created with reactor in 3ds Max to spread it around the scene, along with a broken table and some china to show the bull's destructive nature (**Fig.15**). I then used a Mental Ray directional Spot light as a key light coming through the window, with one Omni light behind the bull for some fill (**Fig.16**). Then it was time for the hardest part: rendering.

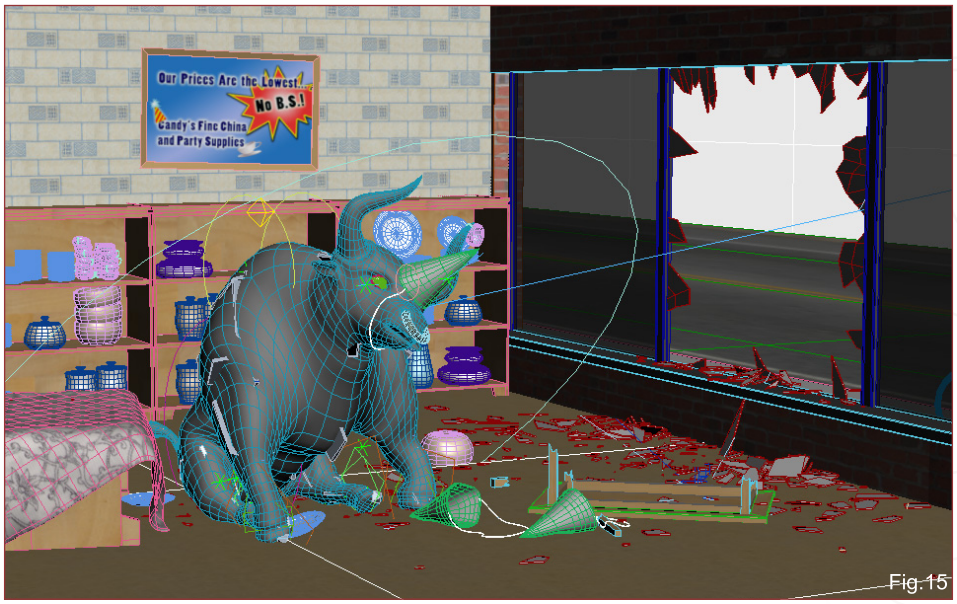


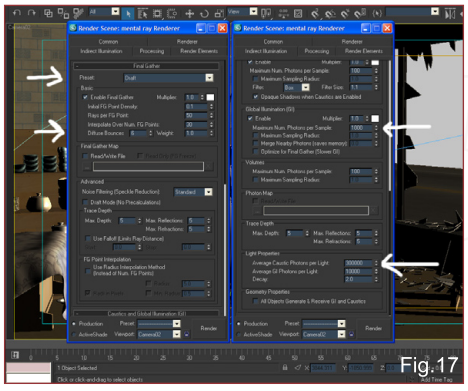
Fig.15

Rendering

Now most people would not consider this to be difficult for them, but I had my fair share of problems at this stage. If anyone has ever had the "out of memory issue" with Mental Ray, you'll know my pain! I have spent countless hours on many projects looking for solutions, and it has always been the same: render elements separately. If you don't have gigs and



Fig.16


Fig.17

gigs of memory to utilise and you want indirect illumination in Mental Ray, this is the way to go. I am sure other people have their own methods when dealing with this issue, but I have yet to discover a better one. In saying this, please remember I am still learning Mental Ray and I am no expert!



Fig.18



Fig.19



Fig.20

The steps I took to render my final image was to separate the image into different elements. The first thing I wanted to render was my key light coming through the windows. For this task I turned up my caustic photons to about 300,000 so the light would shine through the windows nicely. I then set indirect illumination quality to draft and increased diffuse bounces to six. I had to leave it on draft because mental ray would crash otherwise (**Fig.17**). After this render took about an hour, I then rendered a fill light pass, an ambient occlusion pass, a zdepth pass, and a windowless key light pass. With these images I compiled the final image in Photoshop and did some post work (**Fig.18, Fig.19, Fig20, Fig.21** and **Fig.22**).

Conclusion

Overall, I am thankful for this opportunity and for the support of the 3DTotal staff and forum members.

Alexander Brown

For more work by this artist please visit:
http://www.abrownportfolio.com
Or contact them at:
alex@abrownportfolio.com

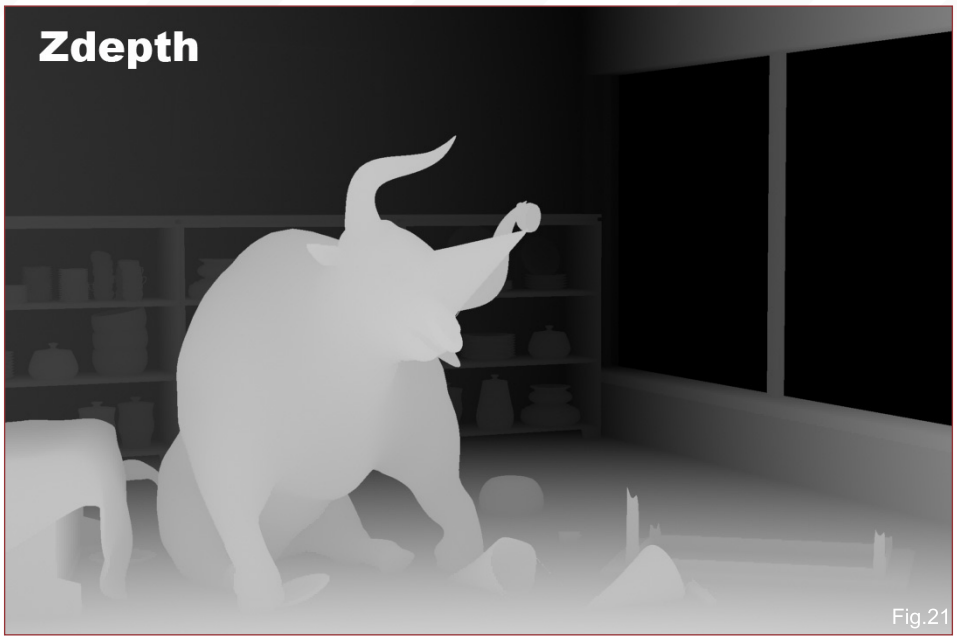


Fig.21



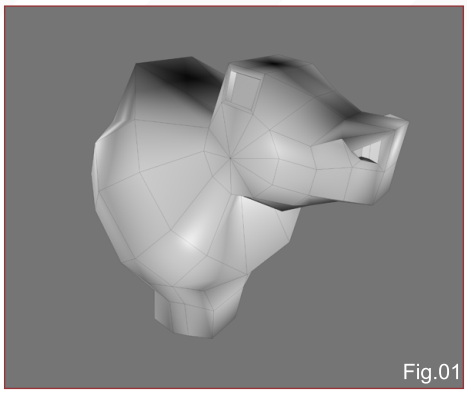
Fig.22

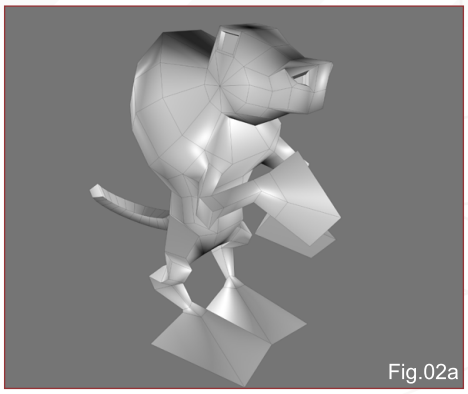


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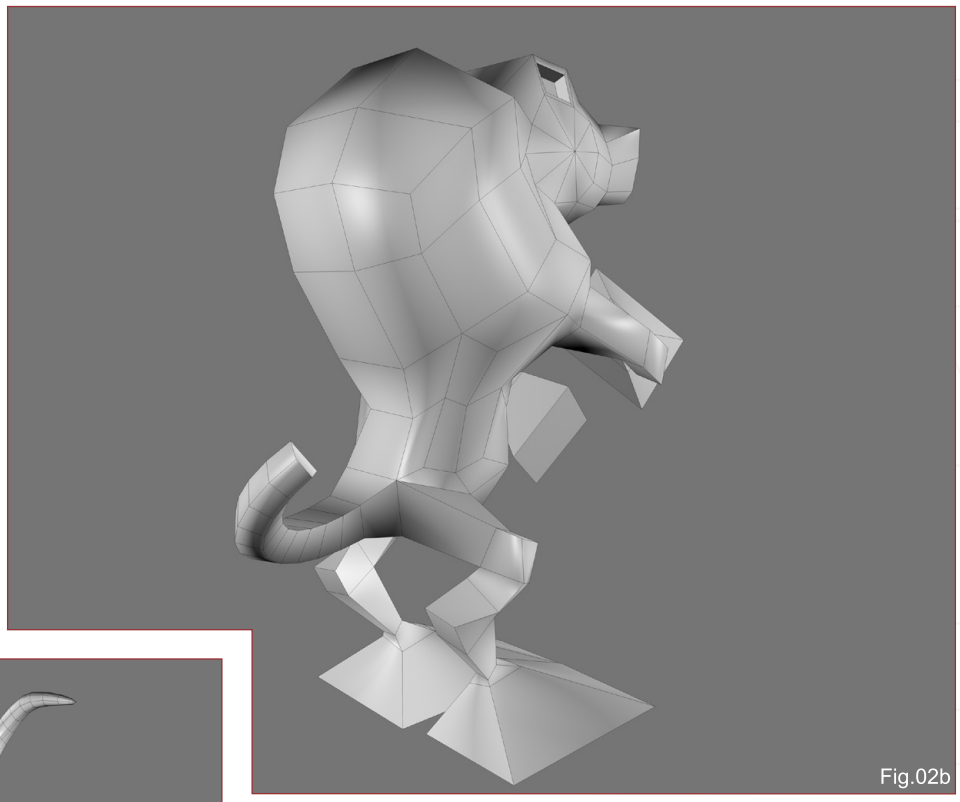
Introduction

As I mentioned in my previous "Making Of" (Issue 031 March 2008), I like to keep things simple because I still have so much to learn and discover when it comes to anything related to 3D. Though the process itself is obviously important, all that matters is the final result.


Fig.01


Fig.02a

These are Stylized Animal Challenges, so I like to stick with cartoon characters. From an early stage the scene plot was defined as "Dressed up bull takes his five o'clock tea on a Victorian-style balcony". The character would be a pun on Oscar Wilde's novel *The Importance of Being Earnest*.


Fig.02b

Modelling the Character

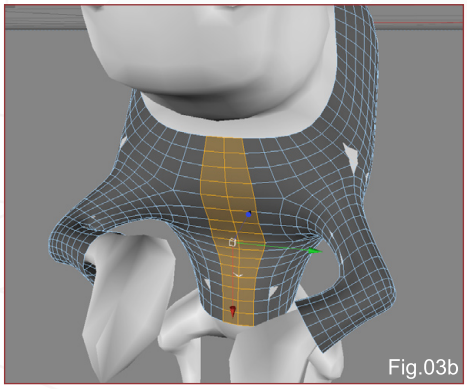
As always, I've used Cinema4D as my 3D package, but my "technique" (note that I've used commas along with the word) is easily replicated with any other 3D application. Since I'm not comfortable with rigging (yet), I have to model the character in the desired pose. I know that this is not the best method, or even an advisable method, but for now, it works for my poor abilities.

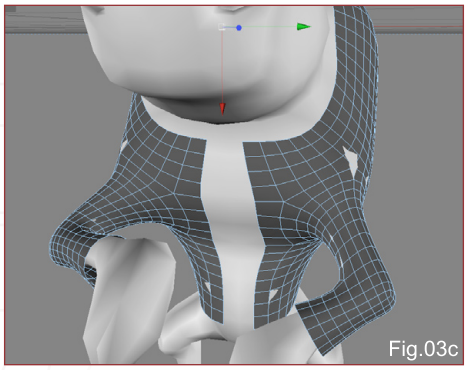

Fig.03a

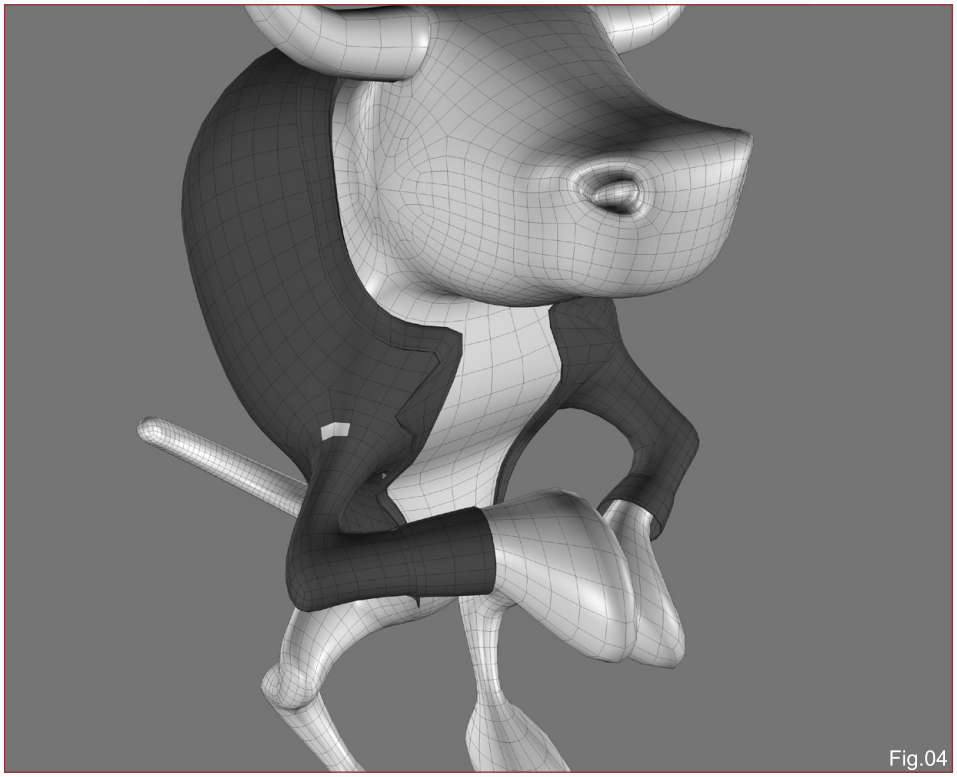
Starting from a primitive sphere, I've reduced the default segments number from 24 to 10, so I can get bigger polygons to begin with. In this first step we defined the basic shapes for the head, nose and torso (**Fig.01**). My main modelling tools are usually Extrude, Extrude Inner and Bevel Extrude. The newly created faces and polygons are then relocated, as needed.

From the rough torso, I've selected five polygons; two for the arms, two for the legs and another for the tail. From there, I went on extruding faces until I reached the basic shape for the bull (**Fig.02a** and **Fig.02b**).

At this point, I used a HyperNurbs object to get a first subdivision smooth on the model and started working on the details, clothes, horns,


Fig.03b


Fig.03c


Fig.04

etc. Like rigging, BodyPaint and advanced mapping are really important subjects where I'm handicapped, which means that every area which has different textures will have to be a separate mesh. I'm pretty aware that this is not a very orthodox method, and I'm trying hard to learn the best way to surpass this.

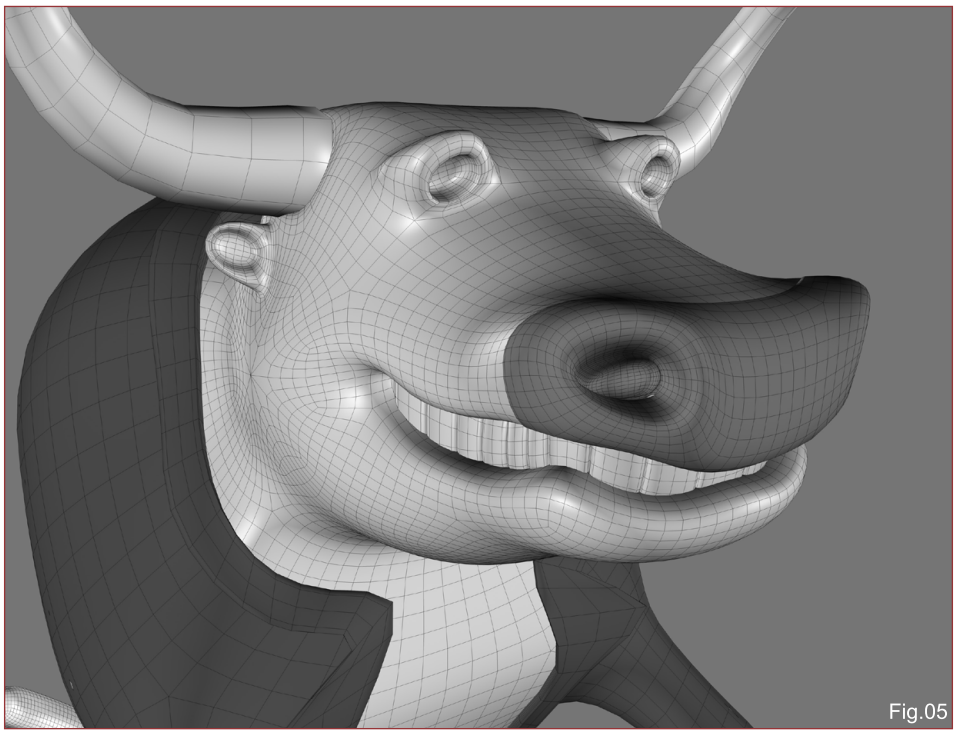
First of all, I modelled the horns from a simple cube, using the same Extrude & Pull technique, and then placed it in a Symmetry object. Simple as pie!

Next, I duplicated the bull's body mesh, selected the polygons that will be used to model the jacket, and then inverted and deleted the unwanted polygons. As you can see in the image (**Fig.03a**) the darker mesh is now the basic shape for the clothes.

After submitting the jacket mesh to a new subdivision, I selected the undesired polygons and deleted them (**Fig.03b** and **Fig.03c**). I could then twitch some details for the jacket collar - mainly adjusting the position of the outer loop of polygons around the neck and torso (**Fig.04**).

After this little detour on the clothing, I got back to the bull's mesh to define the eye sockets, ears, refine the mouth and the snout, and also give him some teeth. Since the snout was to have a different texture from that of the body, I replicated the body mesh, selected the desired polygons for the snout and then deleted the inverted selection (**Fig.05**). Again, I know that this is far from being an optimal method or technique, so you should probably take this as an example of how you shouldn't do things, but hey, it's the final result that counts, right?

By now, the character's head is pretty much done.

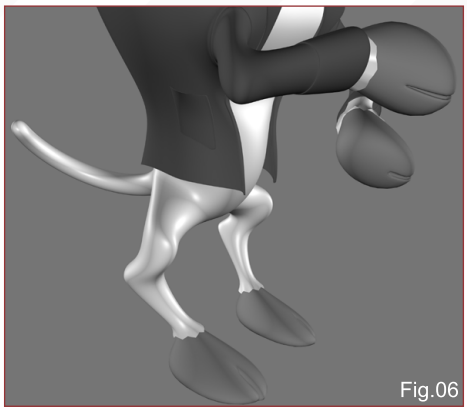

Fig.05

In the last modelling stage, the eyes were added (consisting of simple spheres) and the hands and feet were refined. I used the same method as for the snout, since these areas will have different textures from those of the body.

On the jacket, I added some volume to the wrist and shoulder areas. Finally, a fancy bow tie was applied around the neck (**Fig.06**).

Before turning to the texturing stage, I added the character props. For the monocle, I used Sweep Nurbs from a spline and a circle to create the string, and a primitive torus and tank for the monocle itself. The pin was modelled from a primitive sphere (**Fig.07**).

Alas, the final character model was finished, so now on to the texturing (**Fig.08**)!


Fig.06

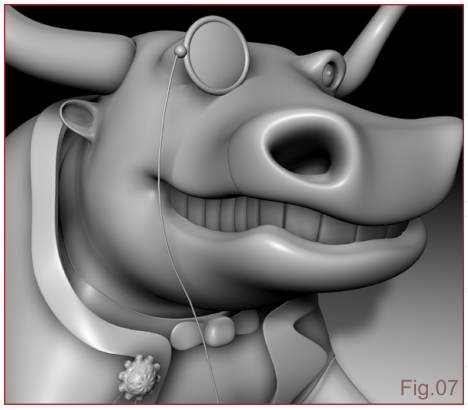

Fig.07


Fig.08

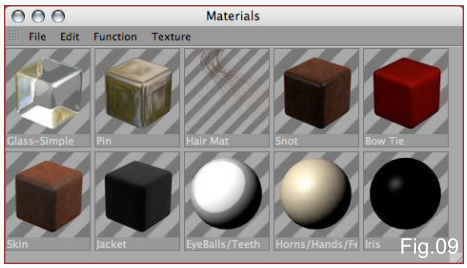


Fig.09


Fig.10

Texturing the Character

For the texturing of this character, I used some built-in Cinema4D textures, with minor adjustments, and some were custom made. I made this texture list, which is easier to comprehend (**Fig.09**):

Bull Skin – Used the built-in Brown Leather texture from the built-in C4D library. This material has a very subtle tone variation and bump.

Horns/Hands/Feet – Custom made procedural texture, using a Dents Bump map at 10% Global Scale, with 5% strength index.

Eyeballs/Teeth – Simple shader using a high specular falloff index.

Jacket – Another built-in from C4D lib; a natural black fabric texture using a grey to black gradient and a soft noise bump.

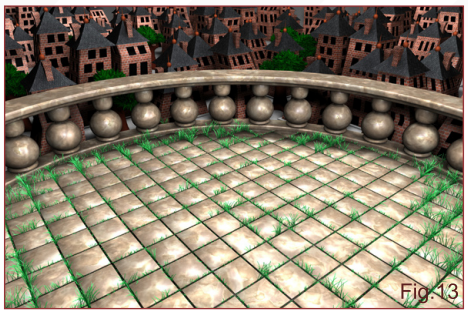
Bow Tie – Similar to the jacket texture, but with a dark red to red gradient.

Pin – Customised from a chrome material; some adjustments on the colour settings to get the golden tone.

Glass – Simple glass material from the C4D library; I added some more specularity for a more cartoony feel.


Fig.11


Fig.12


Fig.13

I spent some time adjusting the materials and doing some render tests. I also added the hairs on the body and head using the splendid Hair Tool module from Cinema4D – a really powerful tool; very comprehensive and easy to use.
So, at last, this is the final textured model (**Fig.10**)

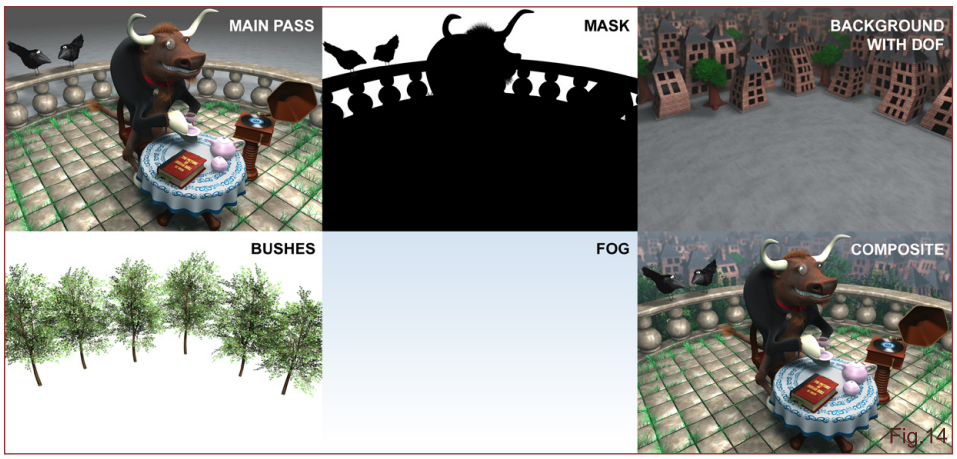


Fig.14

Setting up and Rendering the Scene

I won't be focusing on the scene props and extras one by one, since this "Making Of" is centred on the character; instead, I'll just scratch the surface of several elements to give you a general notion of what was done.

As mentioned in the beginning, the character was to be placed in a Victorian environment, like a balcony over late 19th century London, having his tea in a rather placid and amusing scenario. As you can see from the images, I ended up modelling quite a few props (**Fig.11**); the crows (**Fig.12**), the balcony and a very stylised London city-scape (**Fig.13**).

For the scene setup, I decided to use different render passes and then compose them in Photoshop. I used Depth Of Field for the background, and discovered that when the DOF is applied, a hair object tends to get blurred, too, even if it's in the foreground (there must be a way to avoid this, but I haven't figured it out yet!). Therefore, I had to render the foreground and the background separately, and then compose them. I also used an Environment object to emulate London's typical fog, which was later reinforced with a simple gradient layer in Photoshop. The bushes (C4D lib. objects) were another separate pass, later combined along with the other layers (**Fig.14**).



Fig.15

And here it is: the final composite image (**Fig.15**).

I hope you've managed to follow this very unorthodox "Making Of". Looking back, there are some elements and solutions that could have been devised differently, but anyway, I had a great time doing this image and also dissecting the whole process behind it. See you next time!

Pedro Daniel

For more work by this artist please contact them at:
pedroldaniel@netcabo.pt

1ST MR_POPPIN_FRESH

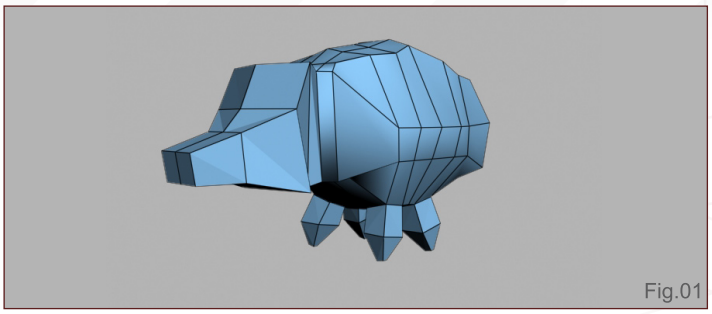
CONCEPT

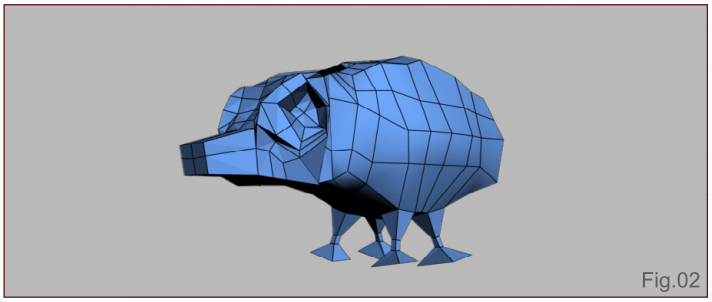
I wanted something simple yet interesting to look at. What I had in mind was a fat, round bovine with legs so small that the ankles look like they are about to break from the weight. The instant the viewers see the image they should be able to get a sense of the bull's personality. This bull is stuck up; he thinks he is better than everyone; people should worship the ground he walks on; he is very proud of his armour.

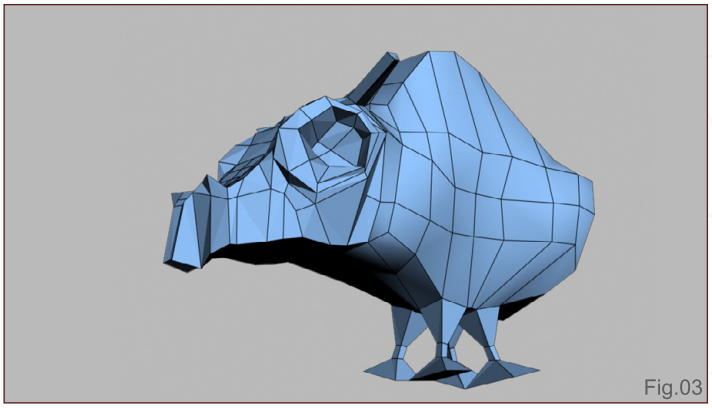
MODELLING

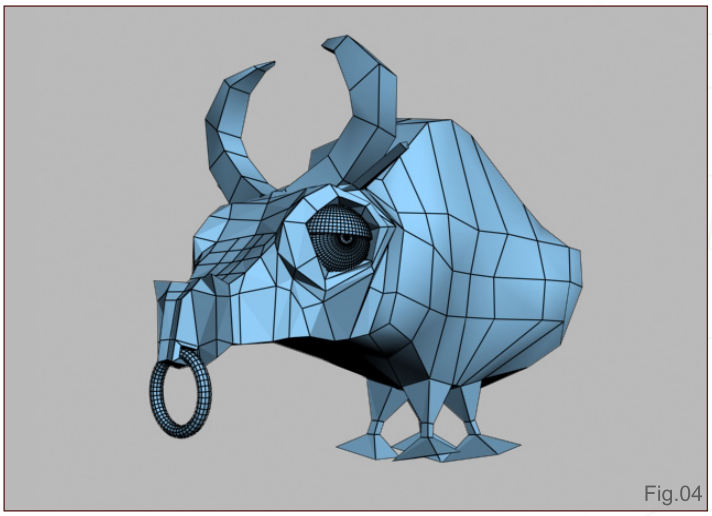
The character was done by box modelling. I began with a box and roughing out the body, then moved to the head (**Fig.01**). I formed the eye sockets using the good old Cut tool. The hardest task here was trying to keep every polygon four-sided with nice poly flow. I know I didn't do a good job but between juggling several school and personal projects, it works (**Fig.02**). After roughing out the character I gave him a nose and ears. I tweaked and tightened the model and it started to take the shape of a bull (**Fig.03**). Next I gave him eyeballs, a ring and horns (**Fig.04**). When the modelling was finished, I added two iterations of meshsmooth to the model. I aimed for more of the concept rather than a complicated character model. The finished model is very simple – it looks like a big marshmallow with horns and legs (**Fig.05**).

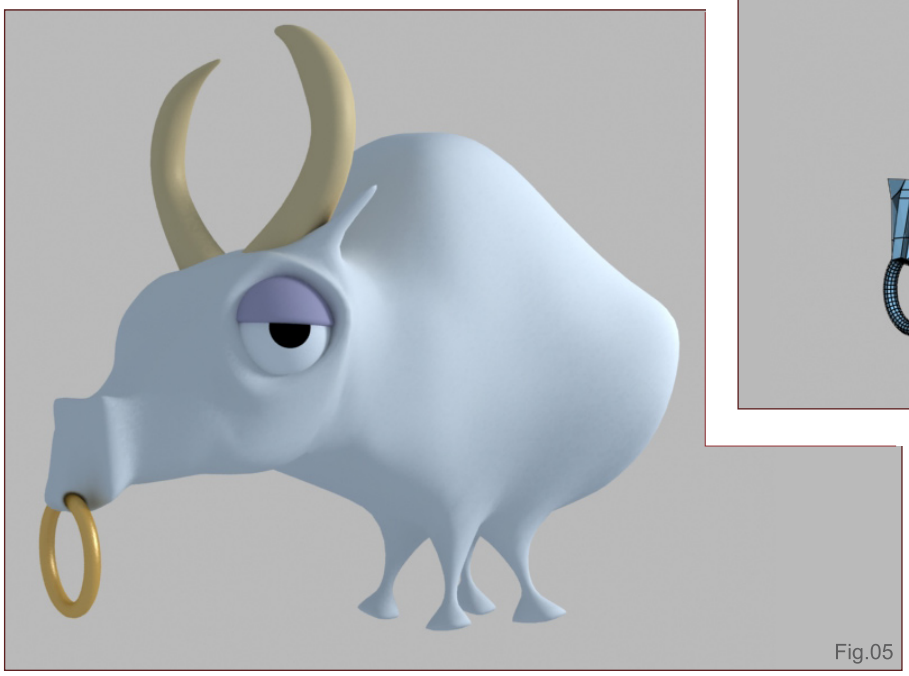
Putting armour on this bull was very fun for me. For the head armour, I made the main piece by edge modelling a plane, and then I added a shell modifier. I cloned the main piece and cut it into parts to add detail layers to the armour (**Fig.06**). The armour plates are just a bunch of simple chamfered geometry with spheres for nails (**Fig.07**). I did a rough render of the bull with his assets to see if everything fitted right (**Fig.08**).


Fig.01


Fig.02

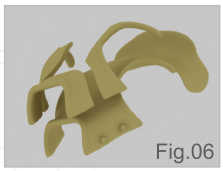

Fig.03

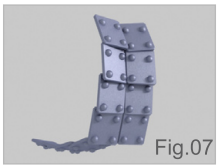

Fig.04


Fig.05

Texturing

I really enjoyed the texturing process because I painted all the maps in Photoshop with a Wacom tablet. I used Google to find all my reference photos of china vases and dragon designs. I used Vray material for the gold on the armour and shield. The dragon design on the neck armour was nothing special - just a bump map. The carpet was just a red noise map (**Fig.09**, **Fig.10** and **Fig.11**). To set the mood, I added a painting of a laughing Buddha in the bottom right. I wanted the Buddha painting to complement the bull (**Fig.12**).


Fig.06


Fig.07

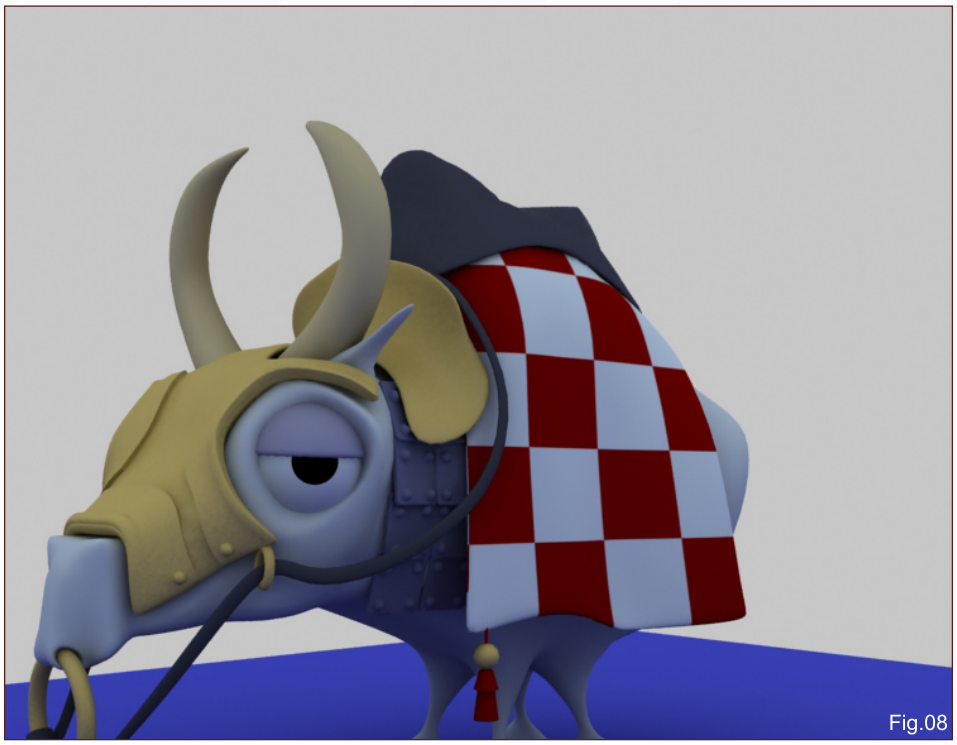

Fig.08


Fig.09

Rendering

My goal wasn't to render a realistic looking bull. I wanted the render to have a nice, soft, cartoon feel. The lighting was simple: one Vray light in the top right corner pointing at the bull. Again, due to time constraints, I didn't fiddle with the light much. Plus, if it looked good, there was no need for a complicated lighting scheme. I placed the light in a way that best gave off highlights on the shield and armour. I had Global Illumination on, with irradiance map for primary bounces and Quasi-Monte Carlo for secondary bounces. I also turned on the environment skylight override to give it the overall soft shadow (**Fig.13**).

Post Work

I didn't do any post work on the piece that was in the contest. However, I've recently made


Fig.10

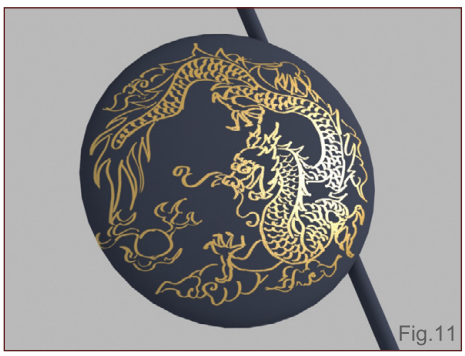
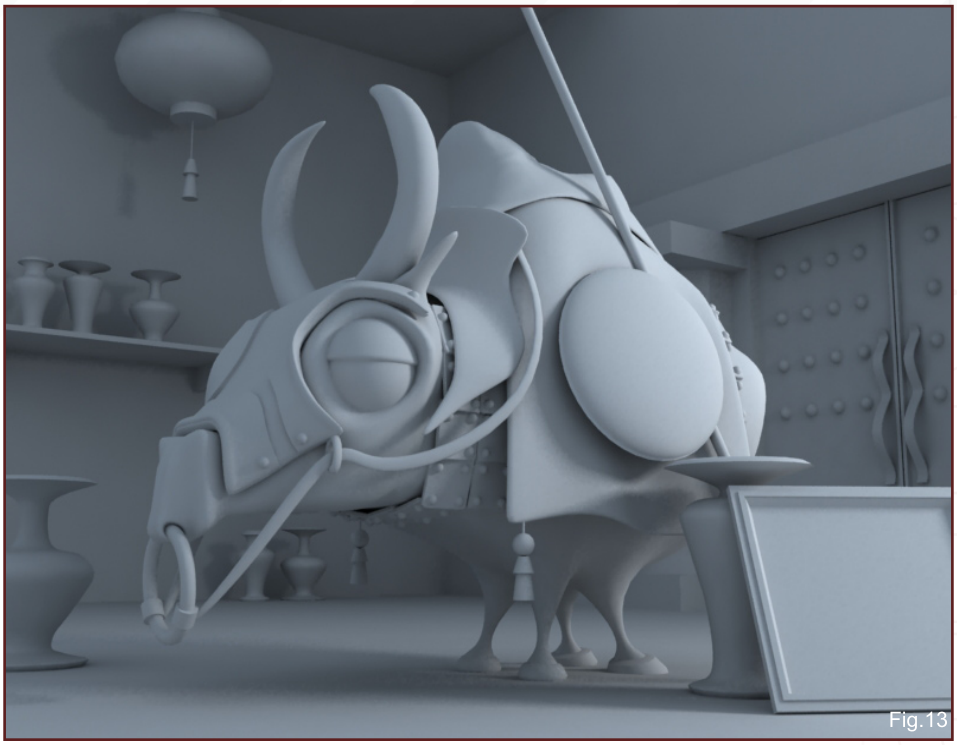

Fig.11


Fig.12

some finishing touches in Photoshop. I made a duplicate of the rendered image and adjusted the level until the colours were really contrasted. Then I applied a Gaussian blur and set it as Screen over the original layer to give the scene a glowing look (**Fig.14**).

I hope this "Making Of" is somewhat helpful. If there are any questions or comments, please feel free to email me.


Fig.13

Jacob Truong

For more work by this artist please visit:
http://jttruong85.cgsociety.org/gallery/
Or contact them at:
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Fig.14

Evolve at SIGGRAPH2008



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3DSMax Version
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Lightwave Part 3, 4 & 5 Versions
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"The head is not a beach ball! This may seem an odd thing to say, but beginners usually treat the head as a large rounded shape with the face put on the front, looking far too flat!"

For all of you out there who have heard of but are unfamiliar with ZBrush, then this new 7-part tutorial series by Wayne Robson is perfect for you! This complete Beginner's Guide to ZBrush is an excellent starting point to get you stuck into the world of ZBrush-ing.

This month Wayne brings us Part Four – enjoy!!

BEGINNER'S GUIDE

TO ZBRUSH PART 4 BY WAYNE ROBSON

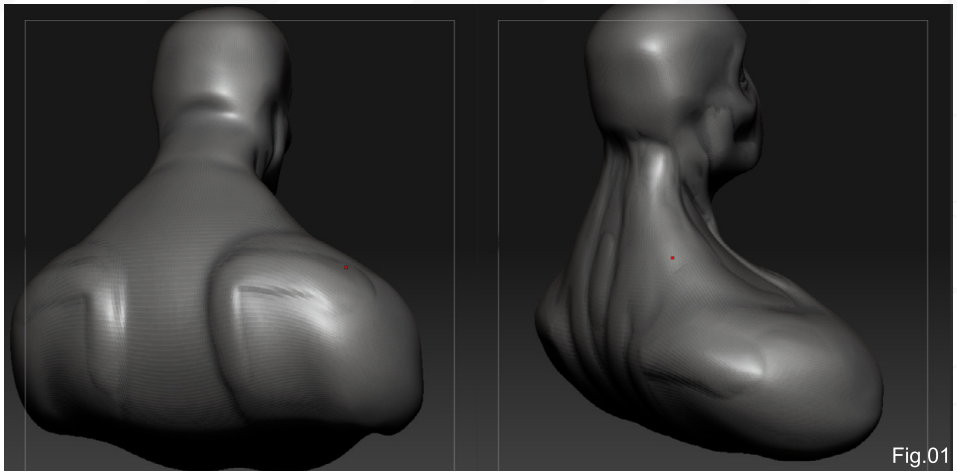
BEGINNER'S GUIDE TO ZBRUSH PART4

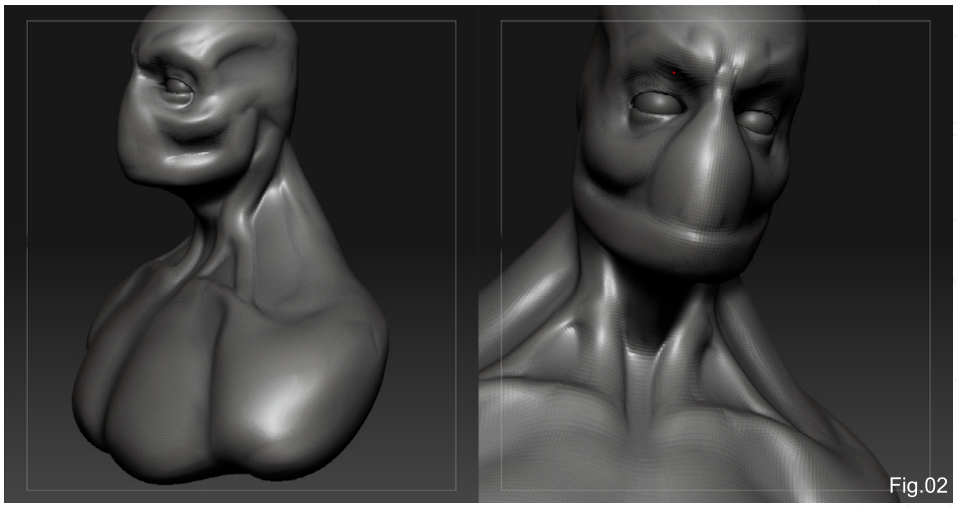
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ZBrush

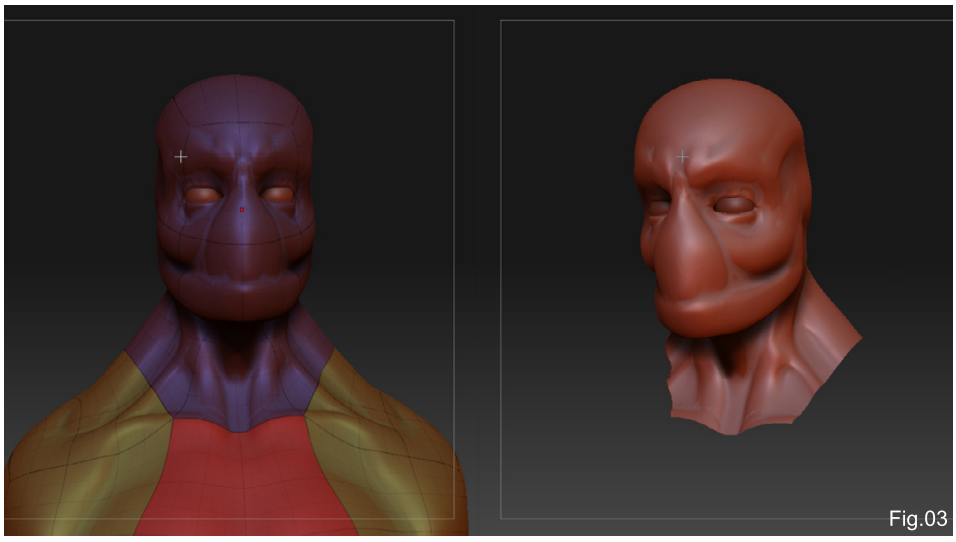
Introduction

By this point we've got to the stage where we have the more important things, such as the head shape, eyes and part of the chest, blocked in. So now it's time to start the process of pulling everything together. Hopefully you have been practicing the steps that we've done so far and have created your own characters, so you should start to be feeling a lot more at home with ZBrush by now. There is literally hundreds of direction this model could take from this point, from a design point of view alone. The beauty of using such low resolution bases, such as the one we made using Zspheres, is that we aren't walled into any decisions made during the polygon stage of modelling.


Fig.01


Fig.02

We need to start moving on towards the back area of the sculpture and start to roughly block in the forms we need, before adding some details to make him look a little more like our final character. You will notice I don't go into fine detail at this stage as I'm basically only concerned with the main forms, masses and medium resolution forms. Any corrections I leave towards the end, once the main design and character has been nailed down. If any areas are hard for you to get right then don't worry, as at the end of this series 3DCreative will be making a free video of the modelling sessions I did on this character available!!


Fig.03

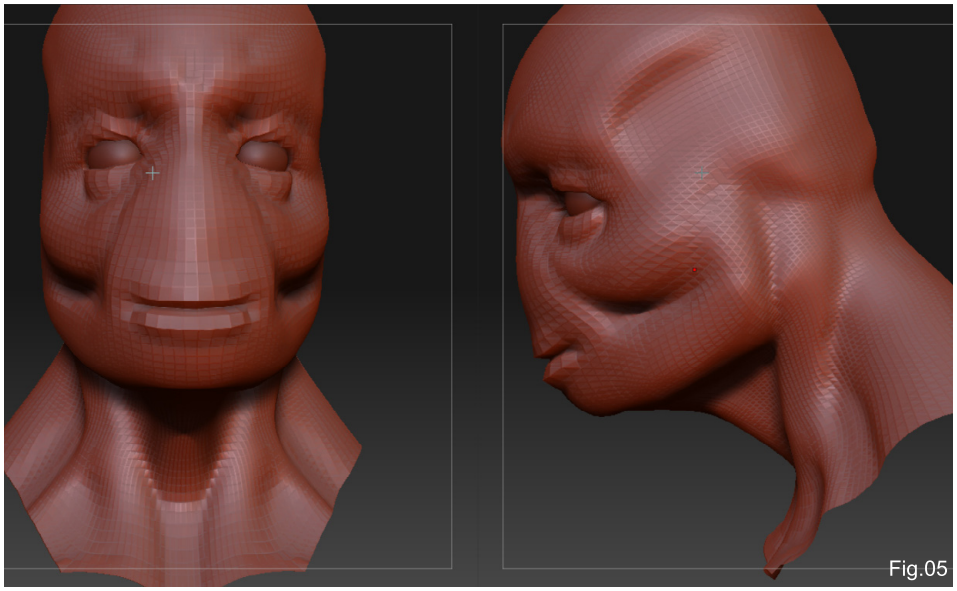
Back to Modelling

Pick up your clay brush with no alpha active and Zadd set to 50. We'll be using the 'Dots' stroke type and I'll be stepping the brush size up and down as I need to. Let's start this session by adding some mass to the shoulder blades. As this sculpt doesn't have the benefit of arms to tell us where they should be or orientated, we'll start by making them fairly neutral and we can change the latter once he's posed near the end. Once you've beefed this area up, as shown, it's time to beef up the area between the shoulder blades running up the neck and round to the front. The Trapezius can be tricky to get right for those without some anatomical understanding, as it inserts into the top of the shoulder blade and runs in a diamond-like shape up to the base of the skull, and also wraps around to the front of the Clavicle. I would strongly advise having some sort of anatomical reference handy when doing anything human- or animal-based. You

cannot make up anatomy without some basis in reality; if you do, it's going to look bad! Every monster or creature, no matter how fantastic or ugly-looking, must have some basis in real-life anatomy!

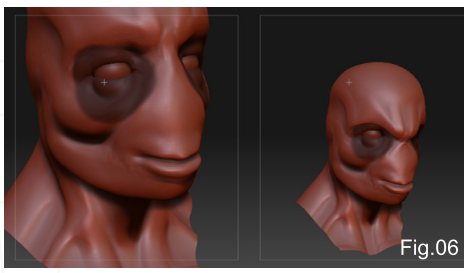
Beef up the Trapezius in the diamond shape leaving a notch just below the neck for the 9th vertebrae. Run your clay brush around the shape of the Trapezius and make it attach to the front of the clavicle. Add some mass to the very base of the skull, just above where it meets the neck, and follow this around to the sides of the skull before smoothing the areas out a little (**Fig.01**).

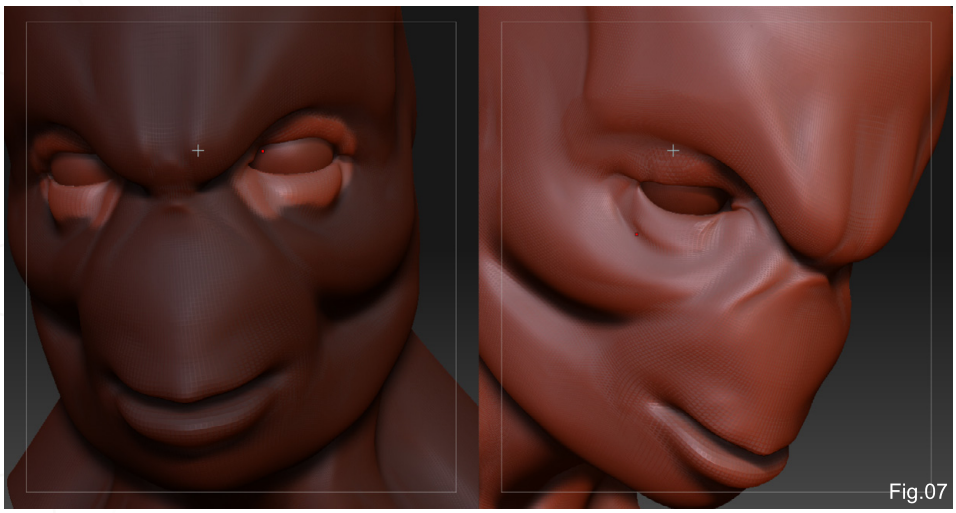

Fig.04


Fig.05

Back to the Front

The head is not a beach ball! This may seem an odd thing to say, but beginners usually treat the head as a large rounded shape with the face put on the front, looking far too flat! The sides of a human skull are pretty flat indeed, so as our creature has a basis in human anatomy we must make sure that those areas are flattened. In this case I also hollowed them out with the clay brush, as shown, to add a less human feel to him. Also add more mass to the arches, running the length of his skull from the area where they intersect the brow part of the skull. As a result of changes to the head, pay attention that the Sternocleidomastoid muscle doesn't start to look out of shape. This should run from behind the ear (if he has any ears, that is!) to the end of the clavicle in the centre, below the neck. These basic landmarks help to keep your 'human-esque' digital sculptures looking a little more realistic, although no one expects you to make a masterpiece first time out (**Fig.02**)!


Fig.06


Fig.07

Facing Up

Add more weight to the cheekbones, lower chin area and the fold of skin between the chin and base of the neck. You ideally want him to look almost as if he has a larger lower jaw than upper one, as shown. Let's isolate the head area to make it easier for us to work on it undisturbed. So, turn on the frame mode (a shortcut of Shift + F toggles it on and off, by the way!), press down Control + Shift and left-click on the head area of

the mesh. This will hide every other part of the mesh (although it doesn't affect other subtools, such as the eyes). If you do the same shortcut again, only this time outside your model, it will reveal the previously hidden areas (**Fig.03**).

Using your Standard brush with its default settings, carve a line into the face that will make our mouth area and then start to build up the lips. Add some mass to the upper and lower eyelids and, to help make them look less like 'holes in the mesh' (although we'll address that a bit later), paint a mask by holding down your control key near the outer edge of the bottom lid and then adding some mass to the top lid over this, to give us a nice demarcation line. Do the same with the inside of the lower lid, near the nasal, until it looks as shown in the image (**Fig.04**).

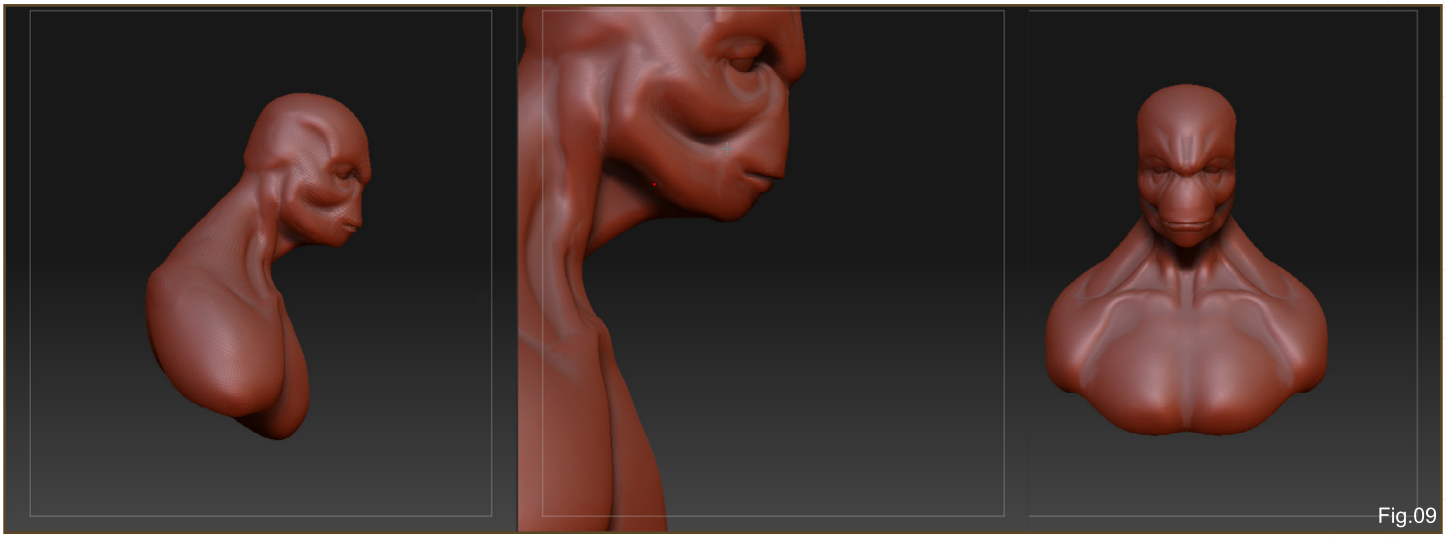
Let's use our move brush now to change the shape of the head a little, especially in the mouth area. Step down a few subdivision levels and pull the edges of the mouth outwards a bit. Then, from a side on view (remembering you can hold down the Shift key to snap it into a proper side on view), pull the mouth edges back a touch (**Fig.05**).

Step back up your subdivision levels again and paint a mask over the eye socket areas, then blur this mask by holding down the Shift key and left-clicking on part of the masked area.


Fig.08

(You can also blur the mask from the masking section of the tools palette.) Using the move brush again, pull the brows into an angry-looking position, as shown before unmasking the area. If you find the transition of the brow to the upper eye area a bit too harsh, use your smooth brush on a lower subdivision level before stepping up again and smoothing out any areas that still need it (**Fig.06**).

Again, paint a mask over the eye socket area and then invert it by either going into the masking section of the Tool palette or by holding down the control key and left-clicking outside your model. Then, using a smaller move brush, start to pull the eyelids into a more pleasing

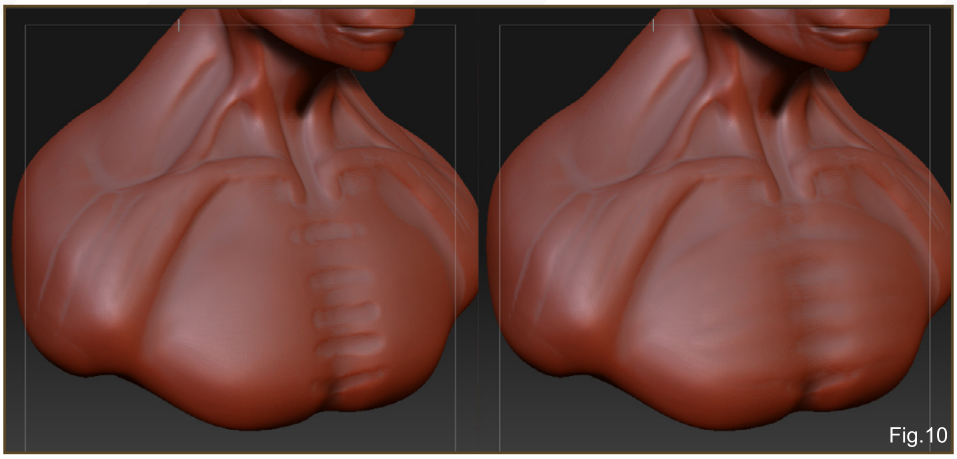

Fig.09

shape. We are looking for realism but also something that helps the model to have some personality. Smooth the transition from the lower lid to the cheekbone out a bit, as skin stretches over this area and the fat there. We want some definition in his anatomy, but we don't want him to look anorexic (**Fig.07**)!

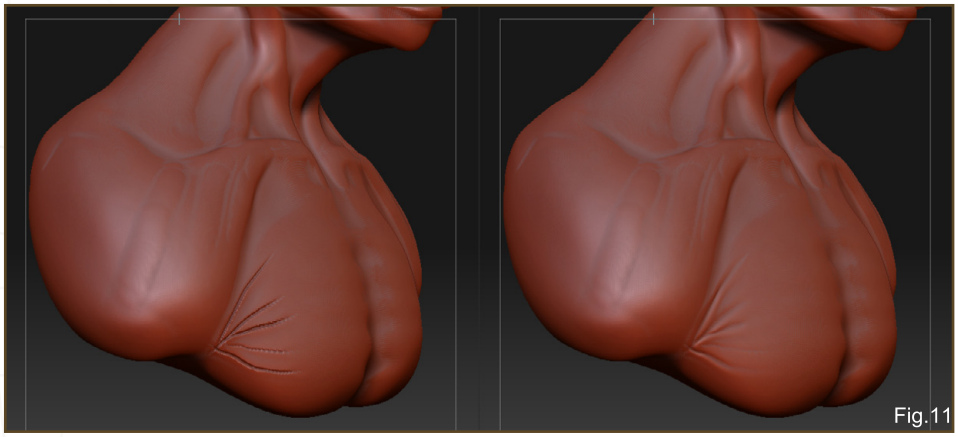
Mask off the lower jaw and make sure you are totally masking the lower lip, and then pull the upper lip down to meet it. As we are closing the mouth he's not going to need any teeth. Then start to pull the almost-beak shape of the front of his mouth area out, as shown. Do this in a combination of a side view and a ¾ view (**Fig.08**).

Back to the Chest

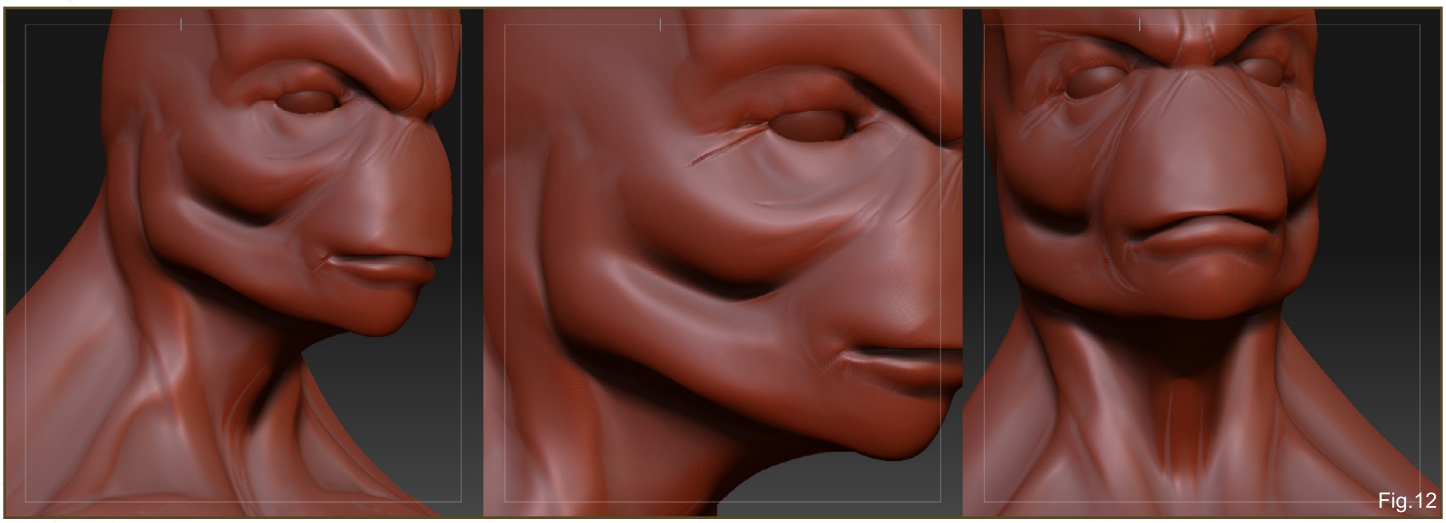
Select your clay tubes brush but change the alpha from its default to Alpha 01, which is the 1st round alpha. I save this out and have it set as a custom brush on my set up as I find I use it a lot at this stage in the modelling process. It's not as harsh as the square-shaped clay tubes and less washed out than no alpha set at all, as in the clay brush (when its set to its default) (**Fig.09**).


Fig.10

Use this to beef up the front of the Deltoid and carve some indentations into the Pectoral area. These striations aren't technically "correct" but they do help the chest area to look slightly more interesting until later on. Start by carving the area in and then add mass between these carved in areas, as shown, and smooth things out as they travel towards the deltoid. Taking the Slash1 brush, carve in some lines, as shown, beneath the deltoid where the Pectorals intersect under the deltoid (again, as shown). The Pectoral muscles are in 5 strip-like sections, and I often pull a line in near the armpit on the Pectoral area to help add a bit of interest. Smooth these out a fair bit once done (**Fig.10**).


Fig.11

The nest bit is hard to describe but it will make total sense in the video when you see it… On the front of the chest and shoulders, carve some light lines in using the Slash1 brush and then smooth them out about 90% until they are barely visible. These help the process of detailing later on to look a little more real, and are done "by feel" to a large degree. Go to the face and do a similar thing, only this time you are carving in

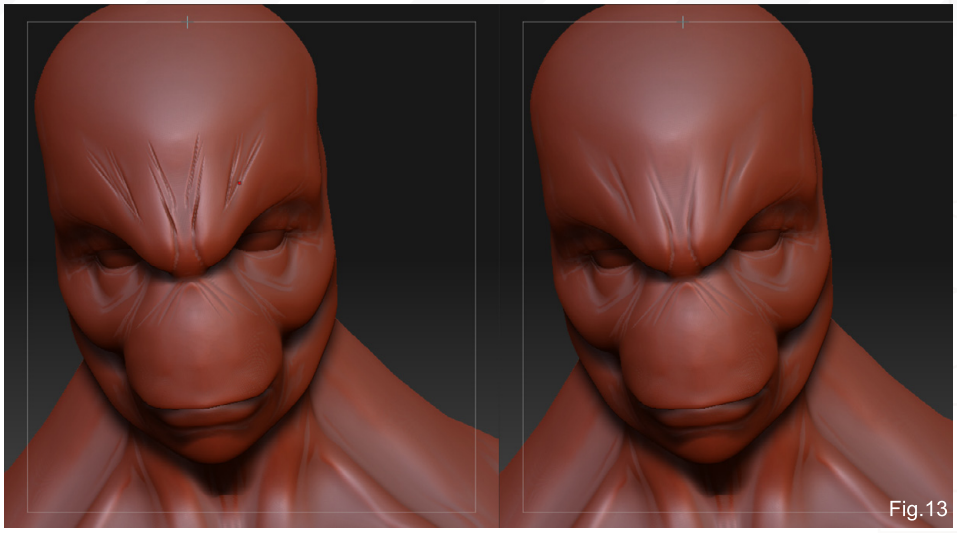

Fig.12

stress wrinkles where the skin is stretching or regularly moves. Only smooth them out 50% this time. Use the images shown as reference to see where I've added them and try to work out why each set is in the place that it is (**Fig.11**).

The wrinkles and stress lines on the brow area are worth special attention as they will change from person to person, creature to creature and from expression to expression. In some ways they are a bit like a fingerprint. If, for example, you put the wrinkles from Yoda's forehead and put them onto another creature, it not only would look strange but it would also be obvious they were Yoda's wrinkles. Such character defining areas as these are best to sculpt to fit the character or creature that you are doing and not a "one size fits all" approach. If you do then it will only end up with a string of fairly identical looking models with very little variety (**Fig.12**)!

Slashing Away…

Change to your Slash2 brush; this brush is rather special in that it not only slashes like the Slash1 brush but also makes one side of the slash protrude while the other stays level. So, as such, it's a very versatile brush that many overlook – I use it on just about every model and never cease finding new ways to use it from


Fig.13

hair to clothing folds to adding some harsher fine detail (as we are about to do) (**Fig.13**)! Take it down in size till it's fairly small (there's a certain amount of trial and error to this part so have your Control + Z undo keys ready till you have it set the way you want!) and start to gently carve in fine lines over the top of the ones you previously carved in, using the Slash1 brush. After carving in each 'group', smooth them out towards the ends until they fit in with the forms of the model correctly. The effect is subtle but will help our end result a great deal.

We've done quite a lot this session and he's starting to resemble our final sculpt quite a bit more closely than he did at the start. As ever, practice what you learned this session and the previous ones on models of your own design to get as comfortable with them as you can. We're going to do a lot of work next time so make sure you are comfortable with the tools we've used so far before next month (**Fig.14**). Catch you all in part 5!

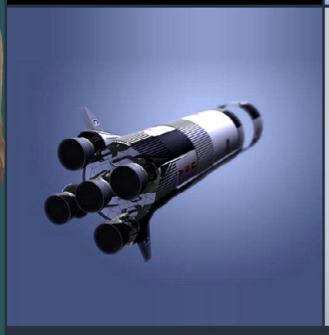
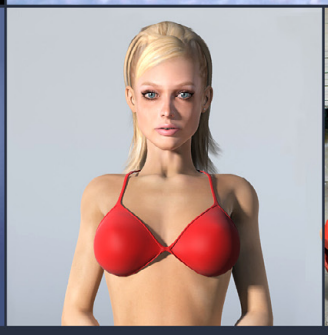
Wayne Robson

For more from this artist visit:
http://www.dashdotslash.net
Or contact:
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Fig.14





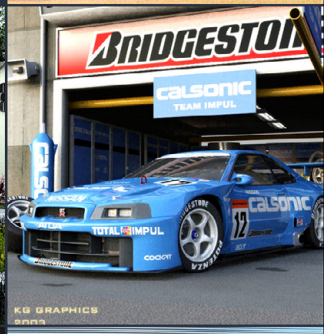


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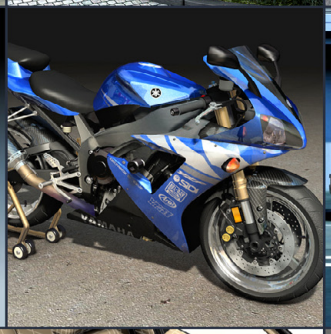
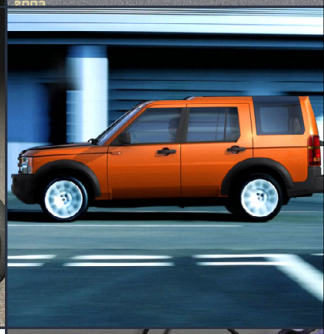
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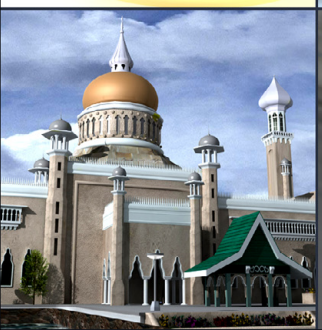


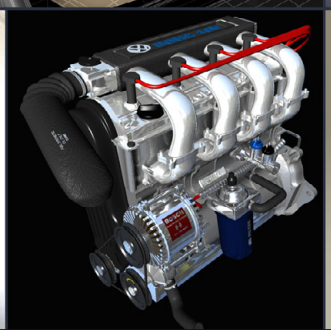





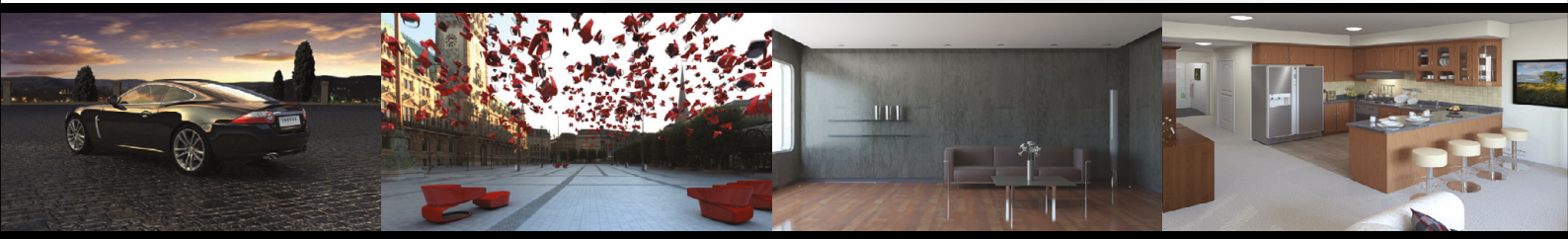





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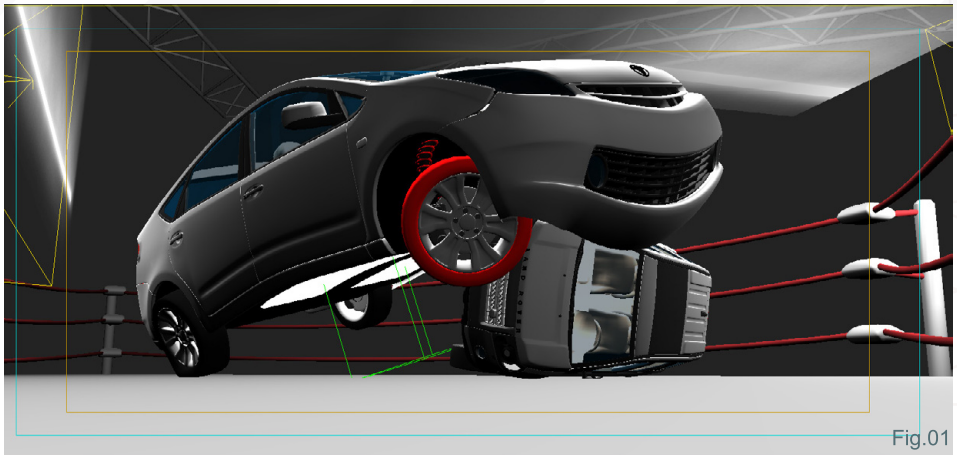


"I WANTED TO ATTEMPT A VERY ILLUSTRATIVE STYLE FOR THE IMAGE; QUITE COLOURFUL, DISTORTED AND ALMOST CARTOONY, WHILST KEEPING SOME REALISTIC ELEMENTS TO HOLD IT ALL TOGETHER"

Eco Wrestle

In this "Making Of" Simon Reeves has created this piece of artwork based on the way cars effect the environment. He explains how he created "Eco Wrestle" and also talks about the reason for creating this unique piece.

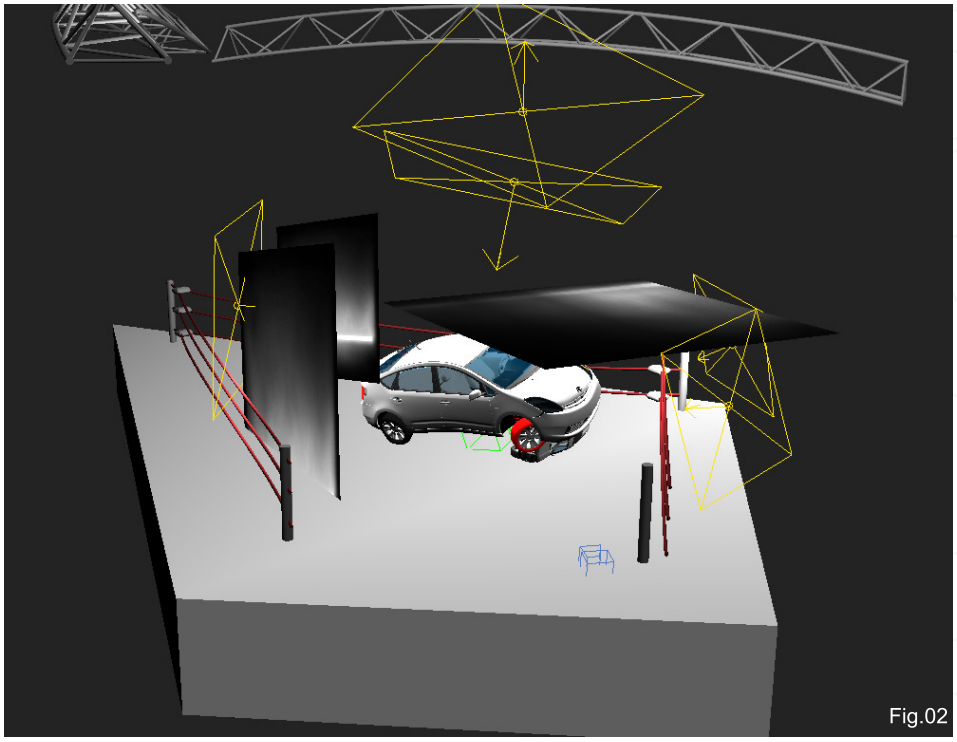
Eco Wrestle


Fig.01

Concept

For this project I had the idea of two cars wrestling with each other. Originally I had it the other way around, with a larger car (4x4 etc.) overpowering a smaller car. But a moment of inspiration sent me in another direction, and I decided to switch the roles of the cars, changing large verses small, to “efficient” verses “gas guzzler”.

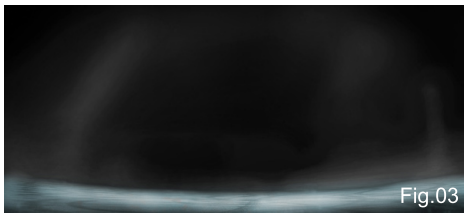
I wanted to attempt a very illustrative style for the image; quite colourful, distorted and almost cartoony, whilst keeping some realistic elements to hold it all together. I also wanted to treat the project as if it were a job, so this meant setting myself a deadline and trying to be as efficient as possible – such as using a lot of post work and models already at my disposal in my library (**Fig.01**).

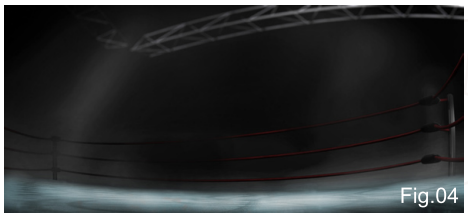

Fig.02

Composition

The first thing I did for the scene was to bring in the car models, place them roughly in the right position together, and pin down an appropriate camera angle as early as possible – to make the post work easier for one thing. I had them sitting on a basic floor, which received shadows but had no diffuse as this was painted in 2D in the compositing stage.

The car models were lit by placing a few large Vray area lights - considering the nature of the scene and the use of such large area lights, I decided I didn’t really need any global illumination. These lights were all set to invisible, not reflection or affecting specular, so that “lightboxes” around the scene were used for something to reflect. In the image below you can see the lightbox textures I painted in Photoshop that were used so the lightboxes were not just a pure white material (**Fig.02**).


Fig.03


Fig.04

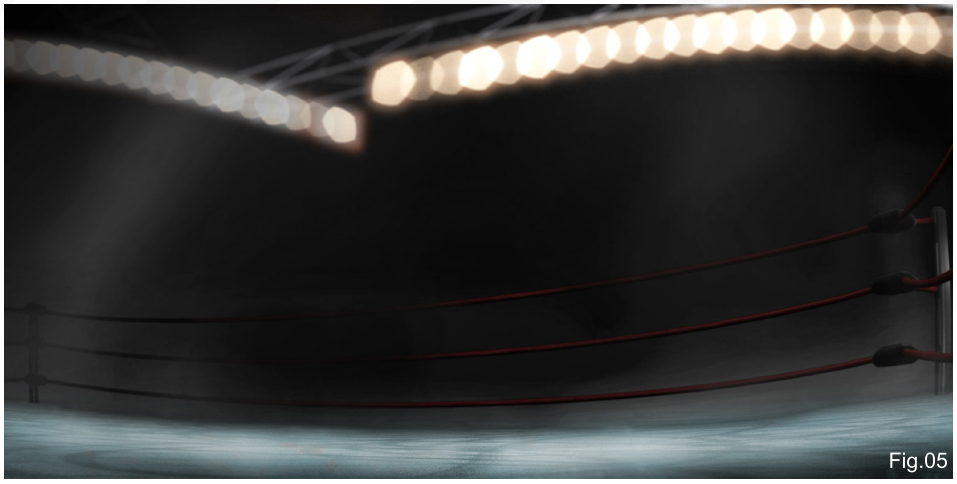
In the rest of the scene, the ropes, corners and the lighting rig were made to suit the camera, so if you view them from another angle you can see that they are quite a strange shape, but this didn’t matter as I only intended them to be seen through the one camera.

This is also true for a few other things: for instance, the front wheels on the car on the bottom are stretched out twice the distance they should be from underneath the body, but without that it was hard to read them clearly.

Rendering

For rendering, I made several different passes, as well as bringing in other elements and painting in Photoshop itself. The base layer was all 2D from Photoshop; this included the painted floor, tyre tracks and a rough smoke type effect to break up the background (**Fig.03**).

The next layer was the 3D background elements; again, these were painted either to fade away, or to add highlights and depth of field (**Fig.04**).


Fig.05

Lighting

For the lights on the rigging in the background, I actually took a photo of my LED lamp out of focus. I then colour corrected and warped it to match the camera's distortion. This was much more practical than faking it – when I could easily use a real one! (**Fig.05**)

The next layer was the 3D cars, which contained their shadow in the alpha channel of the image from Vray. Again, specific areas were colour corrected and touched up in Photoshop (**Fig.06**).


Fig.06

Final Touches

The final element in the composition was the volumetric lights. These were rendered separately and in two passes: one for the background lights and one for the car's headlights. These were then layered onto the other elements with 'Screen' (or you could just as well use 'Linear Dodge' which has now also been labelled correctly as 'Add' in Photoshop) (**Fig.07**).


Fig.07



Simon Reeves

For more from this artist visit:

www.simonreeves.com

Or contact:

simon@simonreeves.com


LAND ROVER

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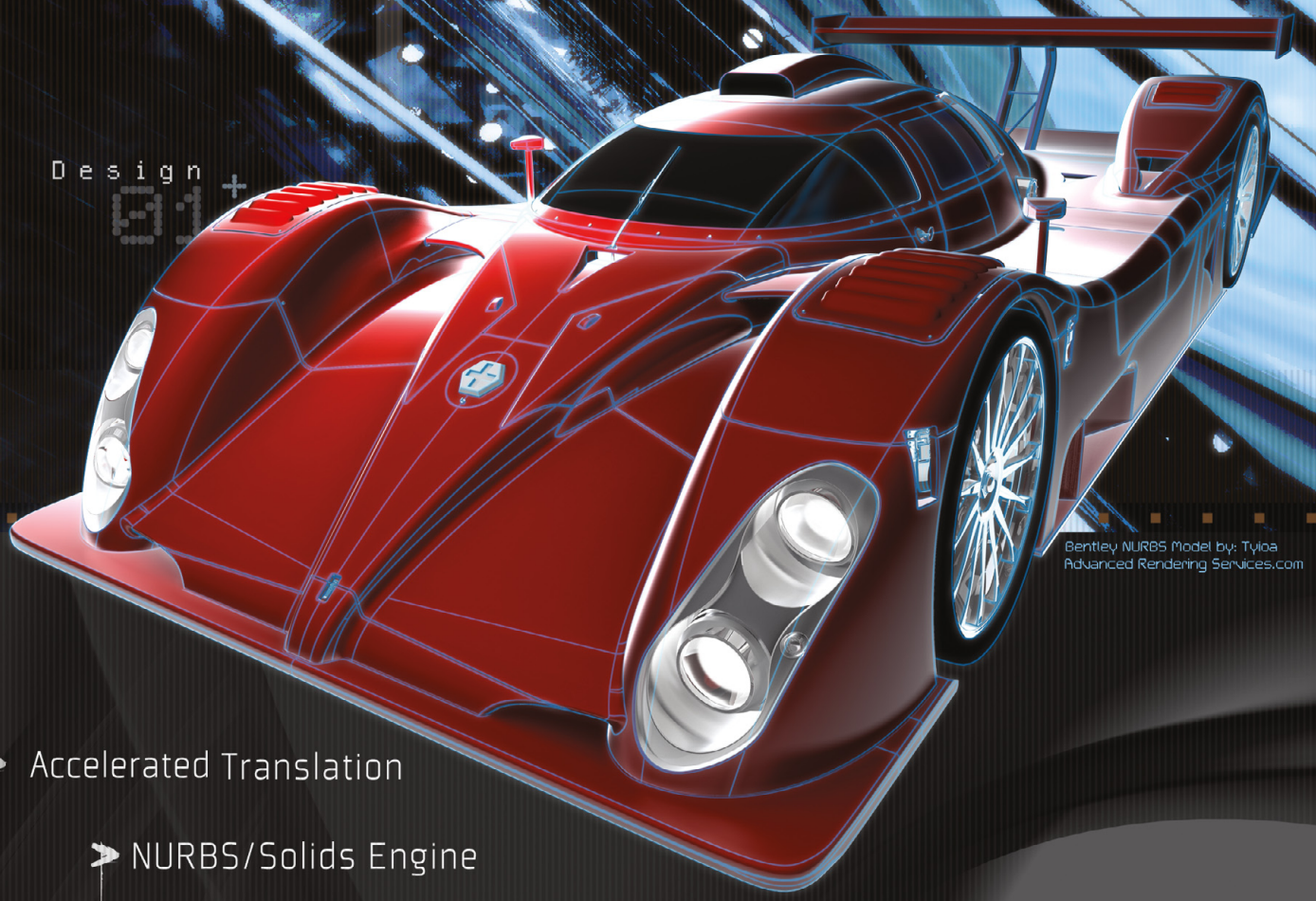
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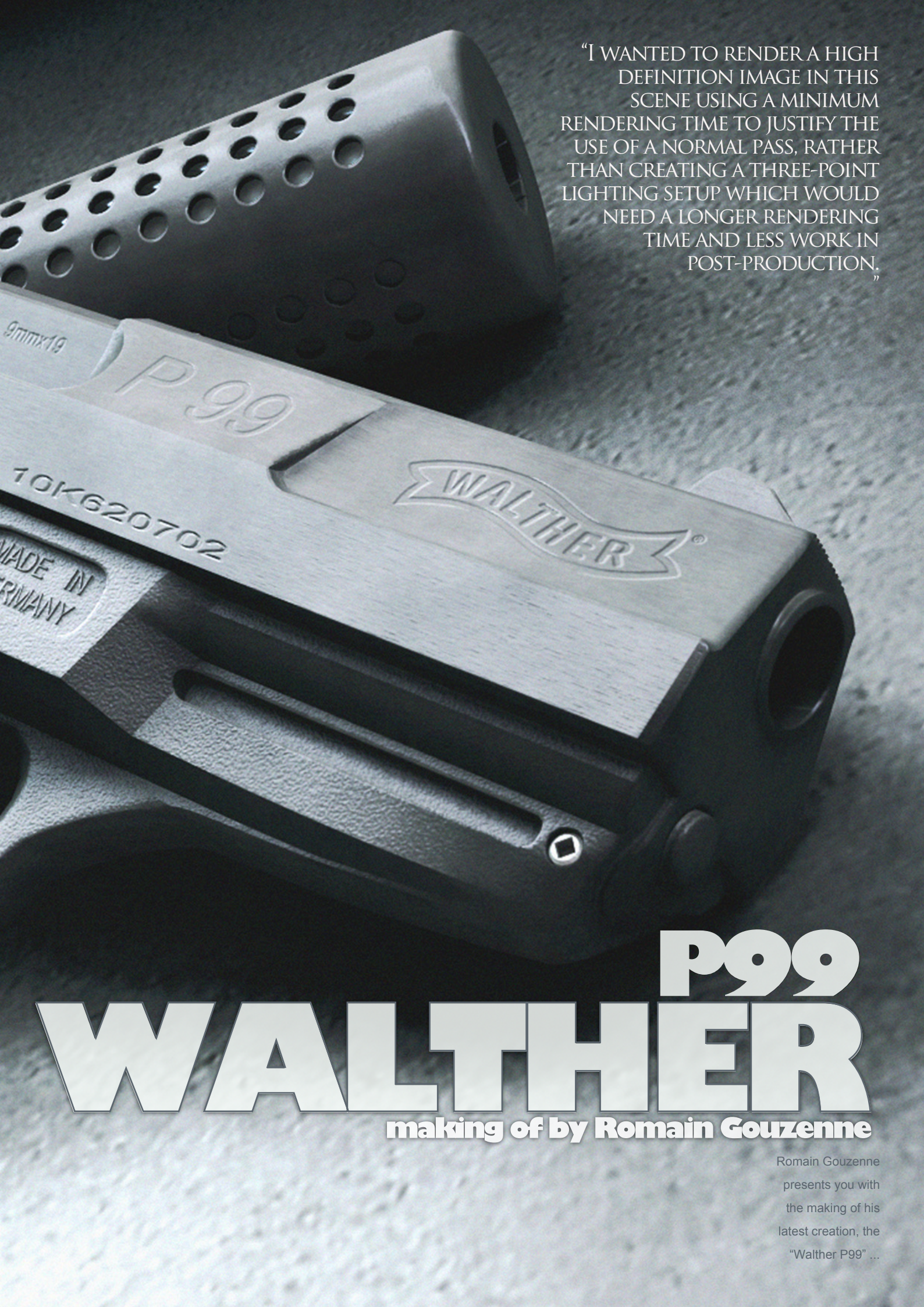


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P99 WALTHER

making of by Romain Gouzenne

Romain Gouzenne presents you with the making of his latest creation, the "Walther P99" ...

making of walther p99

Created In:

3ds Max, with Mental Ray and Photoshop.

Introduction

Hello everybody, I would like to present you with the making of my latest image: “Walther P99”.

Modelling

Before starting to model the P99, I searched for as many different reference photos as I could find on the Internet, so that I could understand the form of the object better.

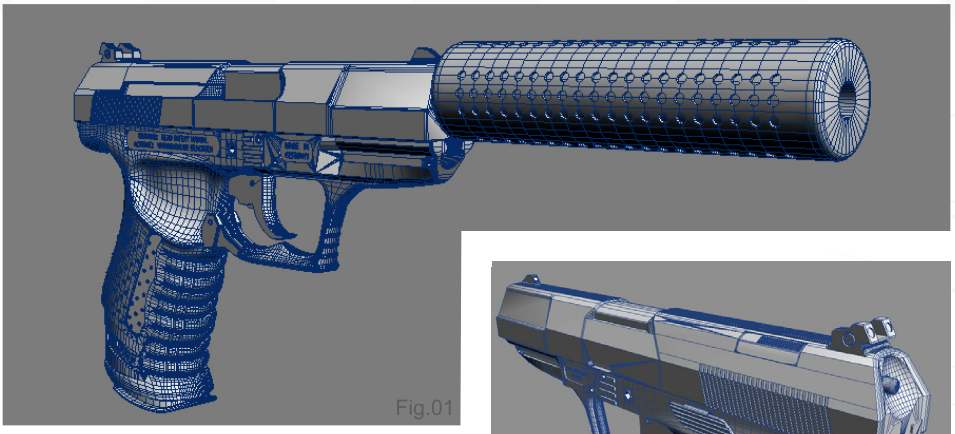
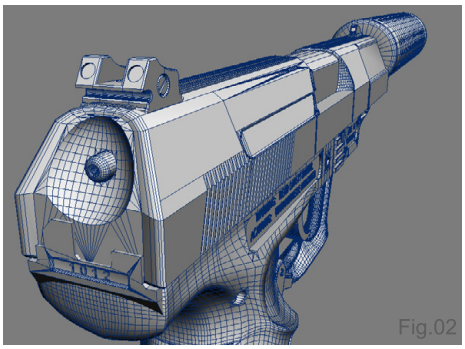

Fig.01

Fig.03


Fig.02

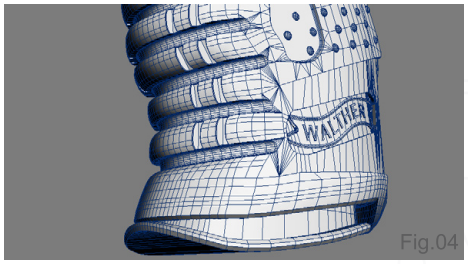


Fig.04

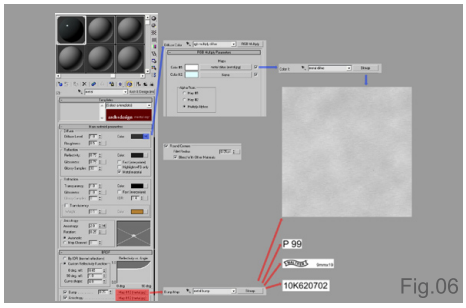


Fig.06

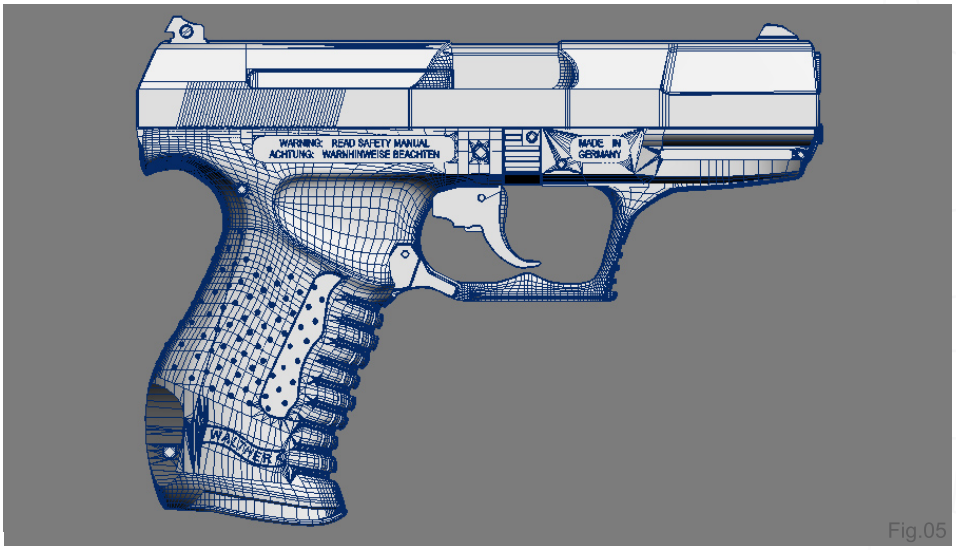
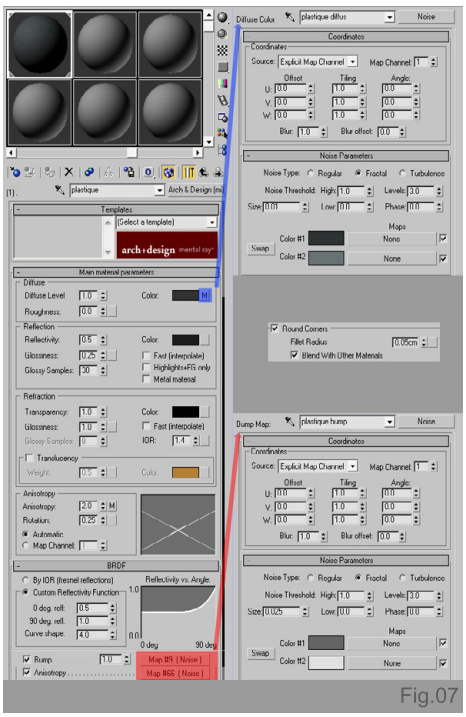


Fig.05


Fig.07

I decided to start the image by modelling the cylinder head, because it was the easiest. Then I attacked the modelling of the pistol grip. For this step, I started with a box in editable patch, and then converted it to edit poly to add the details. I finally finished with the silencer, which seemed very easy to make after modelling the pistol grip! **(Fig.01 - Fig.05**)

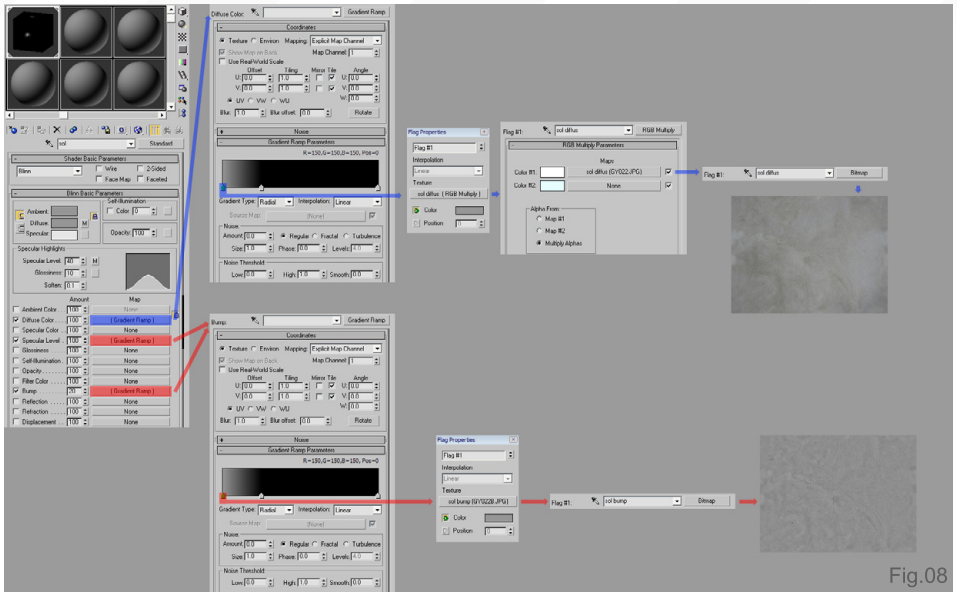
Materials

As far as the materials were concerned, in the scene I essentially used Arch & Design.

Starting with the plastic of the pistol grip, I used a noise to recreate the grainy appearance of the material. I then added rounded corners to create the soft edges on the model (**Fig.06**).

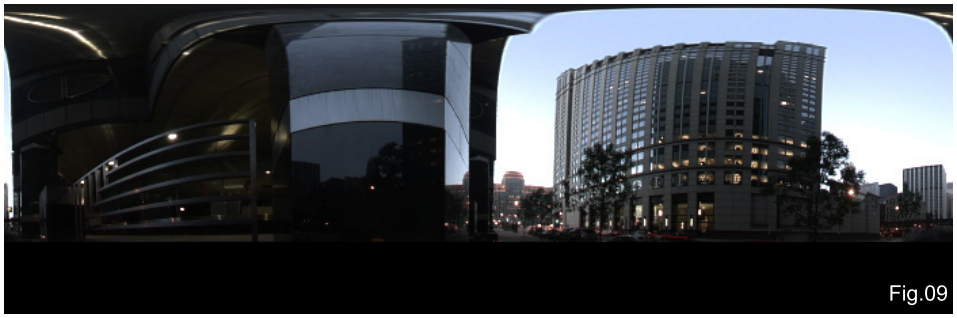
For the metal parts of the pistol, I created a map in black and white in Photoshop, drawing on the reference photos that I had. This map served for the bump and the anisotropy of the material. For the diffuse, I used RGB Multiply to give a tint to my material, without forgetting the rounded corners (**Fig.07**).

And finally, for the ground I used a high definition map of concrete. I added a gradient ramp to recreate the dark area present in the background of the image, and an RGB Multiply to tint the diffuse (**Fig.08**).


Fig.08

Lighting

For the lighting, I used a simple skylight with an HDR map (**Fig.09** & **Fig.10**).

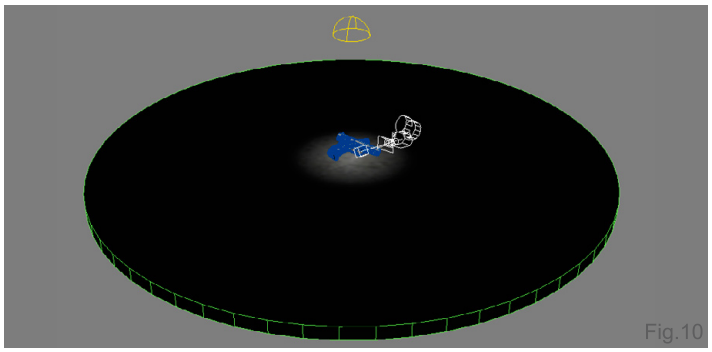

Fig.09

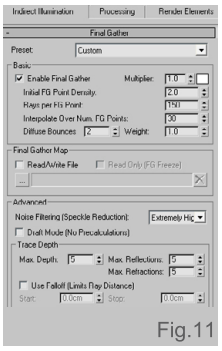
Render

I wanted to render a high definition image in this scene using a minimum rendering time to justify the use of a normal pass, rather than creating a three-point lighting setup which would need a longer rendering time and less work in post-production.

For the indirect lighting, I used Final Gather with the settings shown in **Fig.11**.

I think I succeeded in correctly making a render in high definition (1950x1100), with a minimal calculation time – only 1 hour, 30 minutes to make the scene, with all the passes, on an old Pentium 4. The 3ds Max output image can be seen in **Fig.12**.


Fig.10


Fig.11

Post-Production

Post production was the most important step in the project. Up until this stage, I just had an image with a flat light created by the skylight. Because of this, I rendered a normal pass so


Fig.12

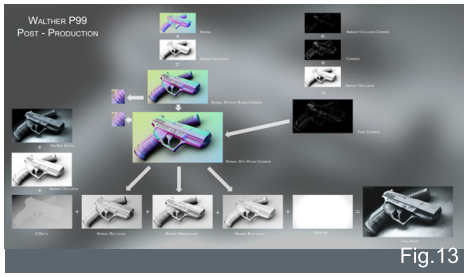


Fig.13

that I could play in real time with a three-point lighting setup. I also rendered a pass to recreate the rounded corners on the normal pass and an ambient occlusion pass allowed me to recreate, the shadows present on the output image from Max. Once done, I extracted the red, green and

blue layers to play with my three-point lighting in real time. I added a little depth of field… and voila! (**Fig.13**)

The final image can be seen in **Fig.14**.

Conclusion

I really loved working on this image, and I particularly enjoyed the techniques I got to use in post-production. They proved very efficient for a fixed image and allowed me to considerably reduce the rendering time!

I hope you have enjoyed this “Making Of”.

Romain Gouzenne

For more work by this artist, please visit:
http://rtg65.cgsociety.org/gallery/
or contact them at:
romain.gouzenne@neuf.fr

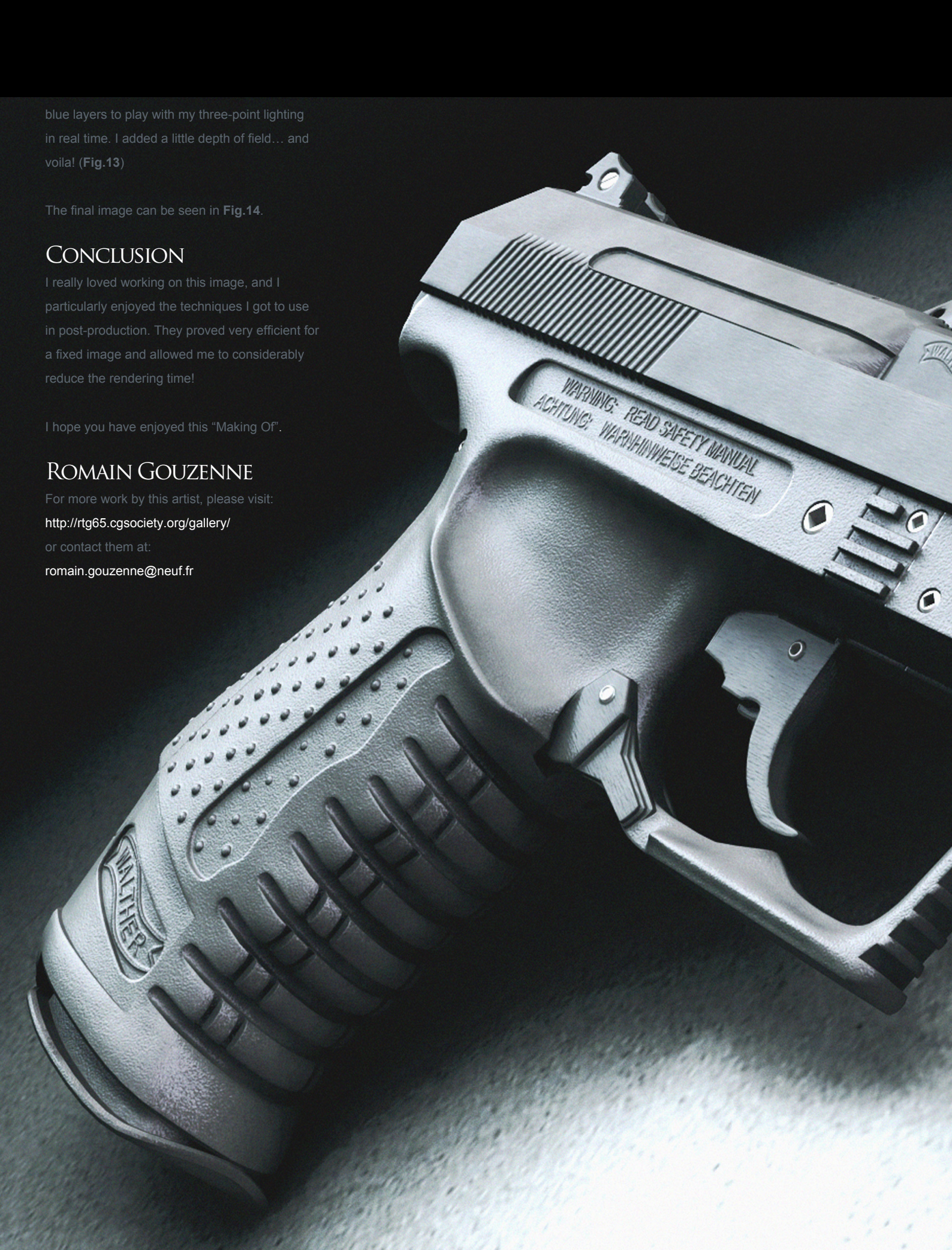




Fig.14

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"Some of the old hangars are still well preserved, and I found the perfect spot for the final shots"



F-14 Tomcat

making of by Stefan Biermann





Read how Stefan Biermann went about creating his image "F-14 Tomcat – VF-84 Jolly Rogers" using 3ds Max

F-14 Tomcat
VF-84 'Jolly Rogers'

Created In:

3D Studio Max 9 (Modelling, UV), Photoshop CS3 (Texturing, Postwork), V-Ray 1.5

Introduction

This project is the largest I've ever attempted. It's been in development for around six months now, with me working constantly on it for a couple of hours each day. It was supposed to be the leading project for my portfolio, and I wanted to create something big for that.

Concept

When I began working on this plane, the only thing I knew for certain was that I wanted to make an F-14, or more specifically, an F-14A. In terms of the final environment, or the setup of the scene, I had no firm plans. The in-flight render of the F-14A was my main goal and it turned out to be one I filled almost completely - the only major change being that my plane's engines ended up belonging to a F14A+/B.

I used a number of reference photos for this project, most of them take from the truly excellent site http://www.anft.net – a very complete and wonderful reference work for all


Fig.03


Fig.01


Fig.02

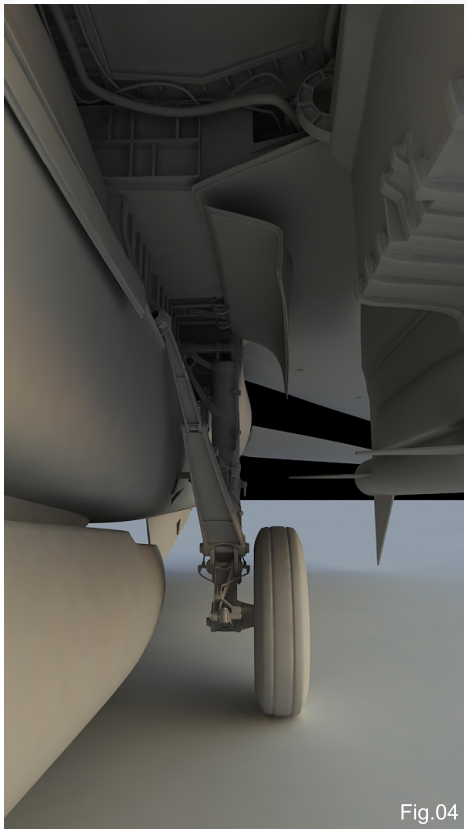
things related to the F14 (**Fig.01** & **Fig.02**). I can't overstate how helpful this single page was in the creation of this project! Other useful sites were http://www.airliners.net, and lastly, http://www.primeportal.net.

Modelling

I realised early on that this project would be a challenge. Looking at the mere insanity that was the nose landing gear bay (**Fig.03**) was an intimidating sight for sure, but in the end it was quite fun working with such a detailed model. 3D Studio Max performed admirably in this difficult environment and I didn't run into many modelling-related problems.

I began by setting up a set of high-res blueprints, given to me by a friend (two 4096 sheets with all the standard views), which proved to be very helpful in outlining the

general shapes of this plane. As I was outlining the basic shape, I kept looking for reference images, both for the overall form and for small details. Primeportal.net supplied those images, but I didn't stumble across that one until the modelling stage was almost completed. I had to make do with smaller images for the most part and do a little bit of guess work for small details every now and then, especially for the landing gear bays (**Fig.04** & **Fig.05**).


Fig.04

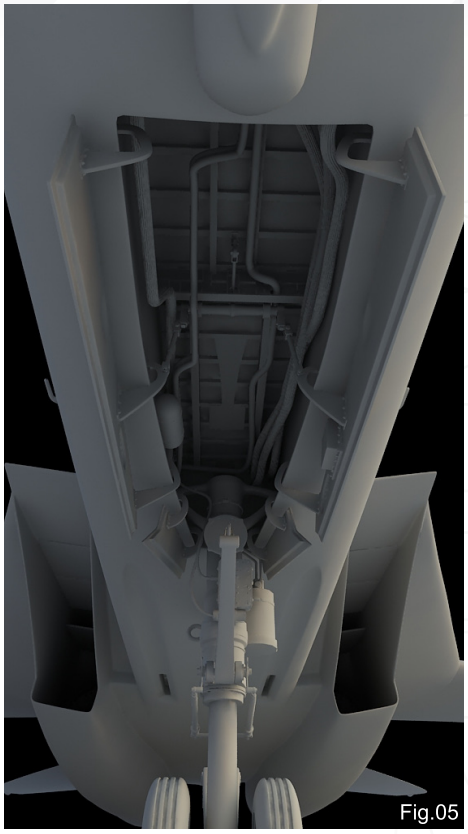

Fig.05



Fig.06



Fig.07

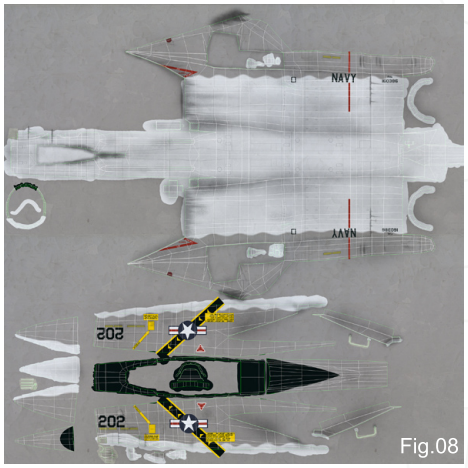
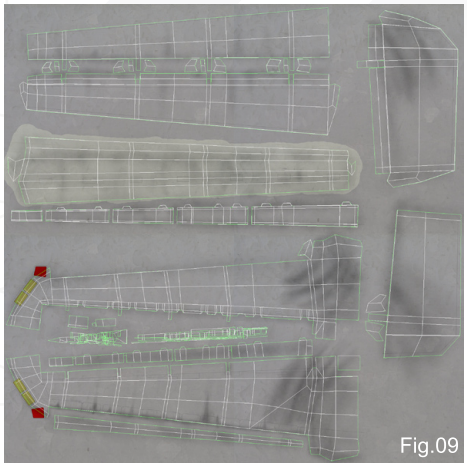


Fig.08

UVW Mapping and Texturing

Unwrapping this plane was a simple task for the most part, since I could planar map large regions and assemble them into nice, big UV shells. However, Max decided to throw me an extremely nasty surprise once I started to create textures! It turns out that mesh smoothing can wreak havoc on UV seams, wildly stretching the UV verts along the seams for no apparent reason (**Fig.06** and **Fig.07**). This caused me a major headache and several days of delay while I collapsed the meshsmooth in the modifier


Fig.09

stack and fixed the seams by hand. (Even after a thorough search on the web, this was the only way I could find to fix the problem.)

The textures themselves are several 4096 sheets (**Fig.08** and **Fig.09**) and pushed the limits of my machine, using dozens of layers and vector shapes. Still, this was one of the most fun phases: watching this project come together. For the squadron markings, I decided to use those of the VF-84 “Jolly Rogers”. The reasons are simple: the squadron is one of the most famous ones, they fit the era of the F14A, and lastly, their colours and symbols are strong and vibrant, especially on the early era paint scheme. I wanted authenticity as much as possible, so I looked up the Federal Standard colour codes and their RGB counterparts, ensuring the plane would look exactly the way it should.

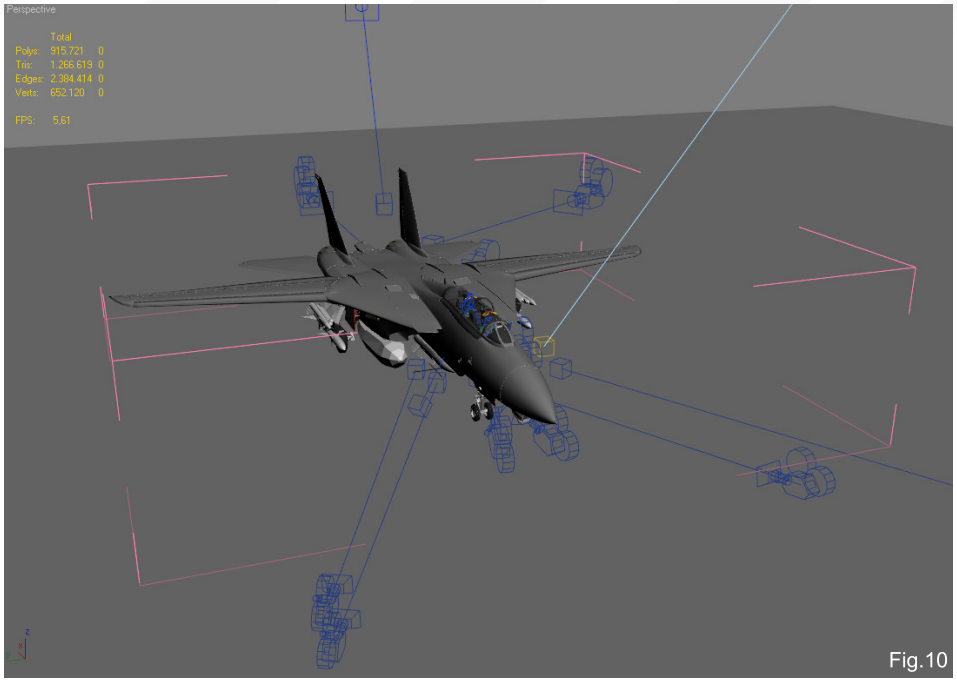
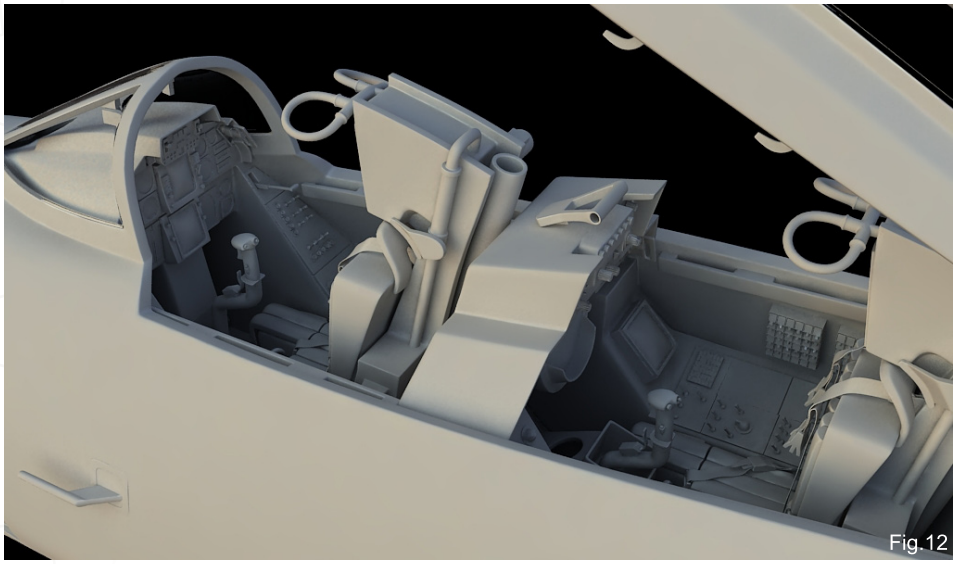

Fig.10

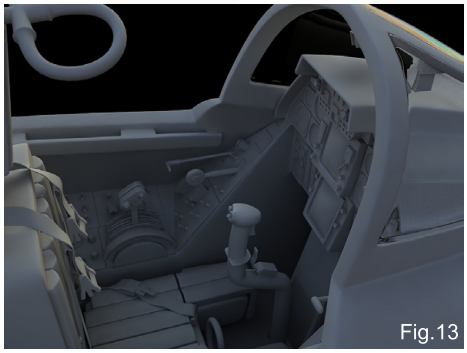

Fig.11


Fig.12

Rendering and Environment

At this stage, I had to decide upon an environment for the plane. I opted against a mid-flight scenario and decided to park the plane on an airstrip somewhere, which would let me show off more of the detail on it.

I chose to create a composited image, using pictures I took myself at the local airport which formerly served as a Canadian F104 Starfighter


Fig.13

airbase. Some of the old hangars are still well preserved, and I found the perfect spot for the final shots. The limiting factor was the rather low-quality camera I had at my disposal, but in the end the results were satisfying enough. As a side note, I didn't put down any measurements, but rather took the photos guessing where the plane would be depending on my position (**Fig.10** and **Fig.11**) – when assembling the cameras in Max later on, it turned out I was pretty damn accurate with my guesses, too!

Rendering was done with V-Ray, using a lightprobe I created at the airport to ensure realistic lighting. I added a weak direct light to enhance shadows on the ground, and after a bit of calibration and material testing, I rendered out the final images, each rendered at 1024 resolution and taking between 1:20 and 1:40 hours (**Fig.12** - **Fig.17**).

Stefan Biermann

For more from this artist visit:
http://www.psistorm.org
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psistorm@gmx.de

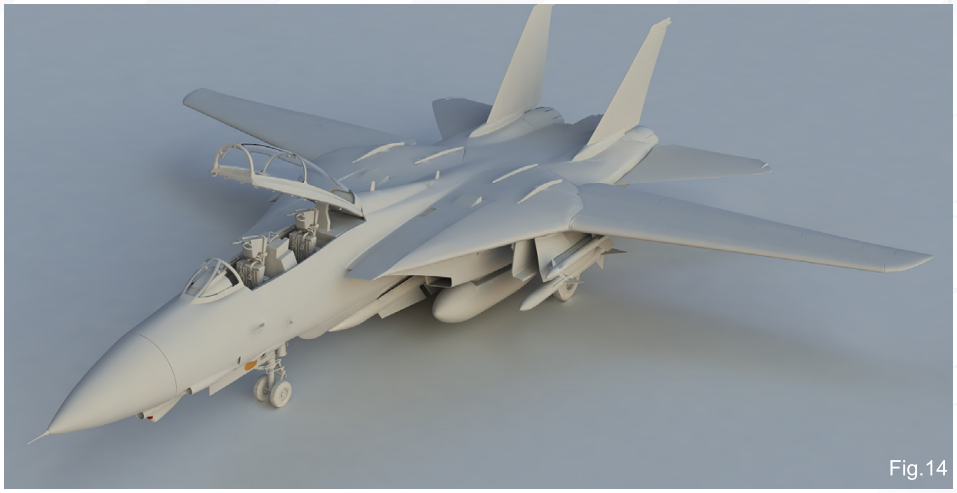

Fig.14



Fig.15


Fig.16


Fig.17

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With the release of 3DTotal's new book, 'Digital Art Masters: Volume 2', we have some exclusive chapters for you...

This book is more than just an artwork book. Not only does it feature full-colour, full-page images, but each artist has given a detailed description, in their own words, of the creation process behind each piece of published artwork. And they've done it especially for this book!

This month we feature:

'Mostreusien'
Cold Meat
by Fred Bastide





The following shots of the “Monstreusien - Cold Meat” book pages are featured here in full-resolution and can be read by zooming in...

Monstreusien – Cold Meat

By Fred Bastide



Concept

The term “Monstreusien” is a compression of the words “Monster” and “Montreusien”, which is the name of the inhabitants of my native city, Montreux, in Switzerland. The idea was to manifest a kind of Clive Barkeresque alternate reality, where all the nice and friendly Montreux citizens turn themselves into ugly, drooling monsters. I've basically planned to make a series of images based upon this principle, with *Cold Meat* being the first that I've done based on a butcher's shop.

Modeling

Firstly, as always, I made some sketches to define the morphology of the monster and the general ambience of the image. The creature was very simple, so I didn't make a plasticine model or draw a front and profile view, as I would usually do (Fig.01).

I built a rough mesh in 3D Studio Max that I imported into ZBrush to make corrections and weight adjustments. When I was satisfied with the overall appearance, I re-imported the mesh into 3D Studio Max to unwrap the UVs and subdivide it. I then re-imported the whole thing back into ZBrush to refine the second level of subdivisions. Of course, this may not be the best way to do things, but I was a beginner with the Pixologic application, and this work was experimental.



Fig.01

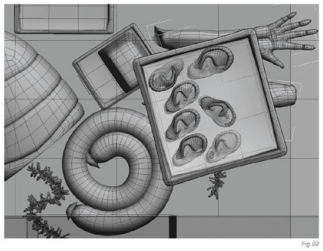


Fig.02

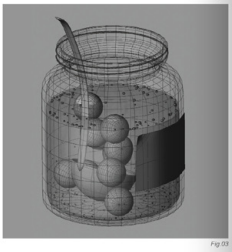


Fig.03

Most of the delicatessen featured started from primitives: spheres for the meat balls, chamfer boxes for the block of foie gras, capsules for the salamis, and helixes converted to meshes for the big sausages. I recycled ears, arms and eyes from a human mesh to add some disturbing elements to the composition (Fig.02 and 03). The green seaweed in the display was generated from a spline and then covered with some fur (Shaglur), and converted to an editable mesh. They do not look very realistic, but it doesn't really matter when considering they could be plastic ornaments.

The eye jar was made from a cylinder and a shell modifier with the scatter tool used to make the bubbles in the liquid (Fig.03). As a final touch, I added some elements in the background, such as the grinder (Fig.04), some butcher's knives, and a huge white rolled sausage. I like to add picturesque elements which are important to the narrative.

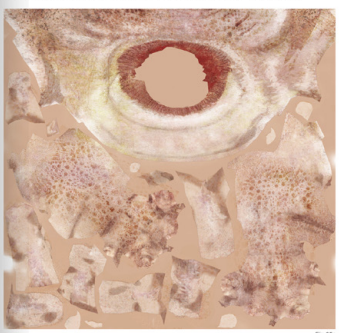


Fig.05a

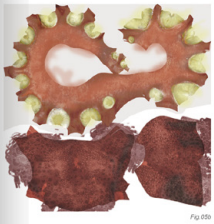


Fig.05b



Fig.05a

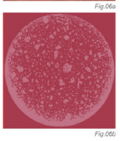


Fig.05c



Fig.04

Texturing

For the creature, I made the color map on a high-resolution square, base bitmap (4096x4096 pixels) covered with small dots taken from a close-up picture of a ceramic plate. I combined it with numerous other images from different sources to obtain a convincing skin, and the tongue texture was made from a toad's back (Fig.05a and b).

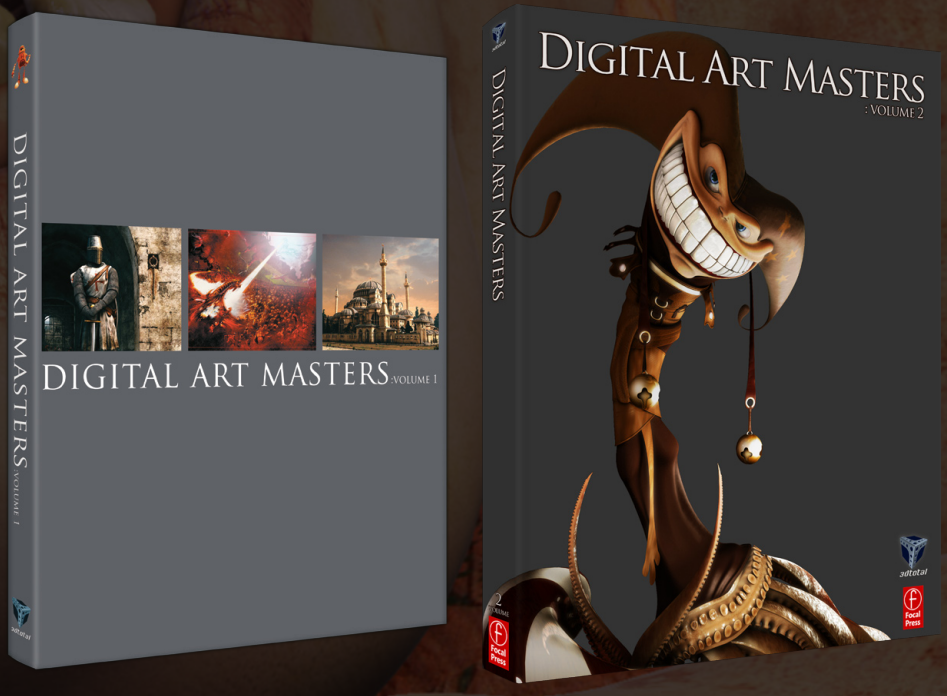
I used ZBrush to create a grayscale map of thin lines around the mouth, cracks on the teeth and other skin details. This map was then used twice: as a bump map, and combined with the color channel to add some contrast. I also used the Zmapper plugin to add color variations, skin details and spots on the arms. The Zmapper often produces artefacts during the projection process, but they were easily corrected with the Photoshop Stamp tool.

All of the meat elements were textured using pictures of real food, found using Google Images, and then mixed



Fig.06c





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"A NORMAL MAP IS USED ON THE SURFACE OF THE EYE TO MAKE IT LOOK WET AND IMPERFECT, AND TO HELP WITH THE BULGE OF THE CORNEA"



The CHEVisodes team brings to us this indepth look at how they created their character "Fern".

making of by CHEVisodes

Fern

Fern

Introduction

Hi everyone and welcome to the making of "Fern", a 3D artwork created by the CHEVisodes team. CHEVisodes is an episode based CG animated movie featuring Fern as a main character. It's a "for the love of this" type project; we're basically a bunch of friends that really love CG-ing. We're currently working on the animation of CHEVisodes and you can still take a look at our website, **www.chevisodes.com**, to see some work in progress. We hope that you will enjoy watching the CHEVisodes as much as we enjoyed making them!

Here's a rundown of all the members of the CHEVisodes crew:

Patrick Beaulieu – Character Animator, Modelling – **www.squeezestudio.com**

Jonathan Simard – Character Animator, Modelling – **http://pikmin.cgsociety.org**

Éric D. Légaré – Animation TD – www.ericdlegare.com

Daniel Huertas – Character Animator – **www.danimating.com**

Daniel Boulanger – Concept Artist

Simon Dubuc – Texture Artist

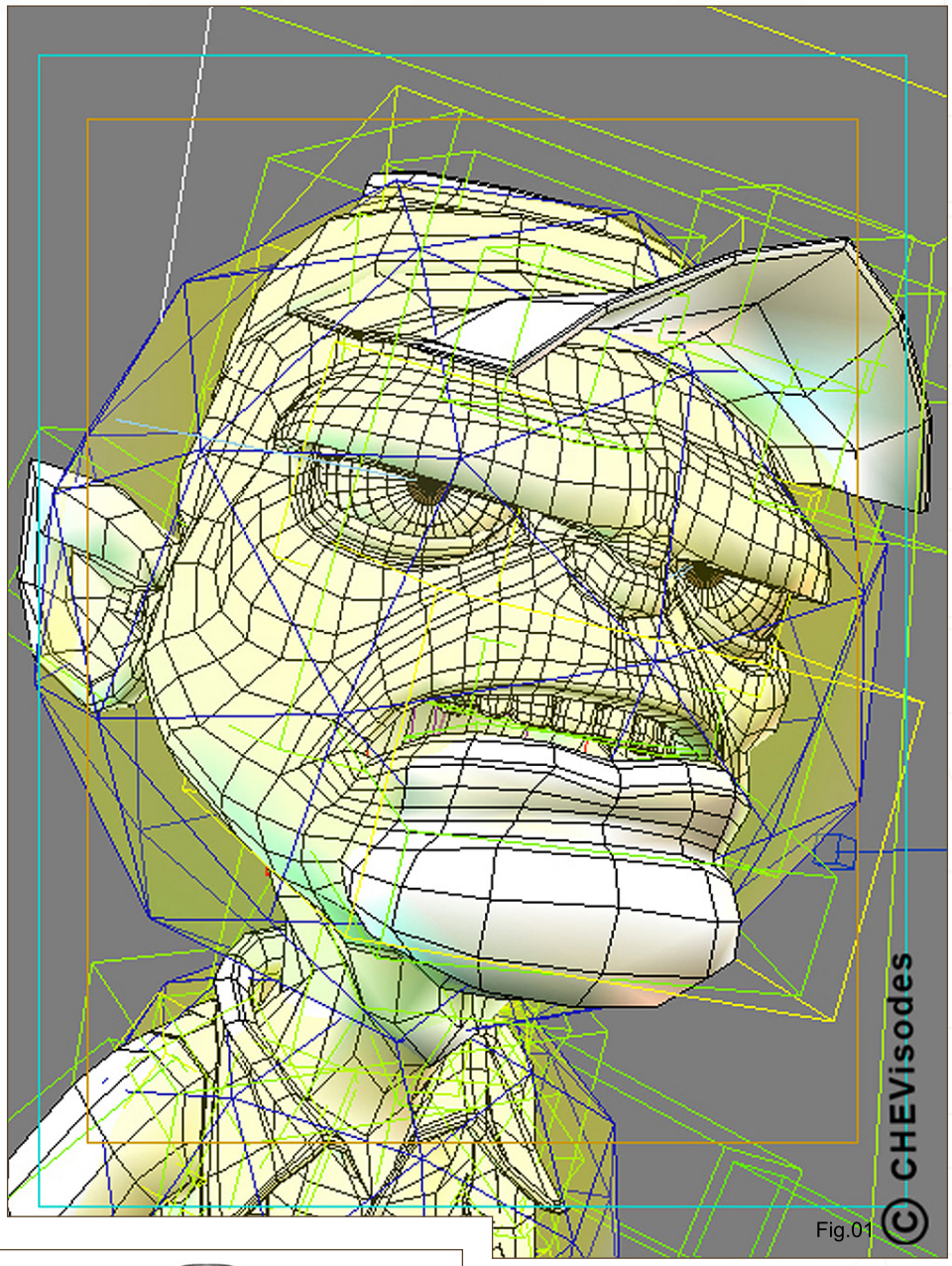


Fig.01

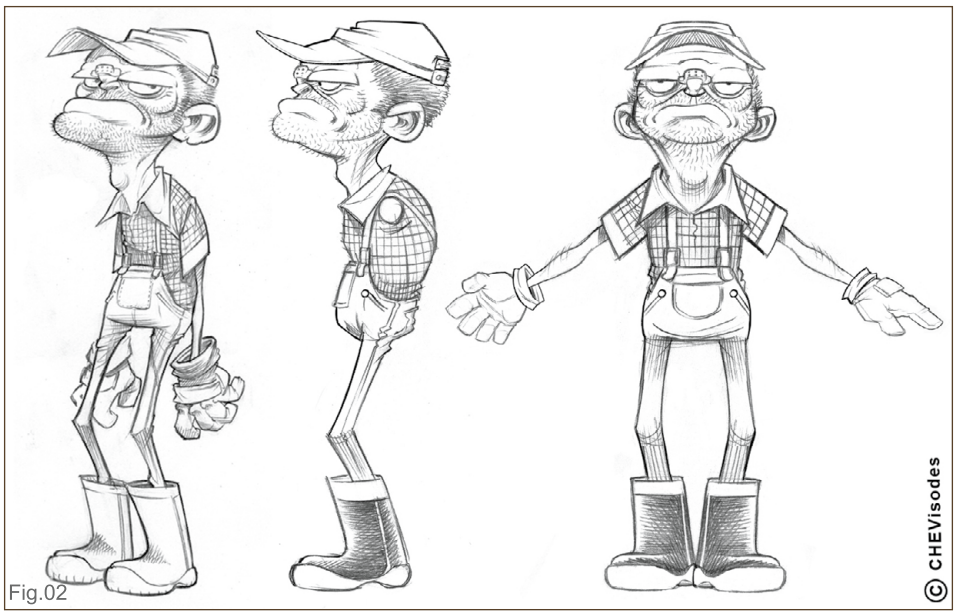


Fig.02

Yves Breton – Sound Designer

Christian Pacaud – Music Composer – **www.christianpacaud.com**

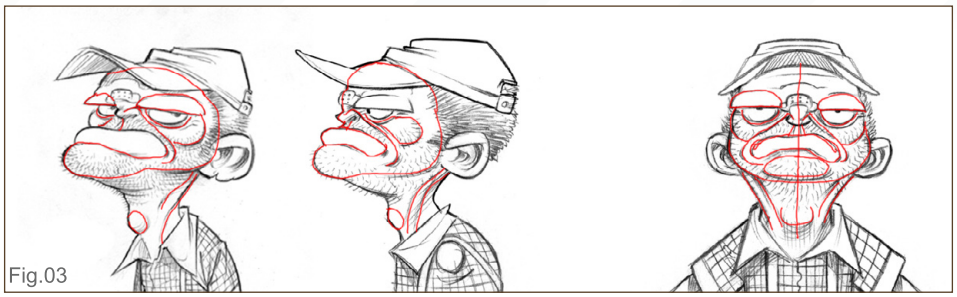
Ruben Mueller – Cheerleader/Webmaster – **www.rubenmueller.de**

The idea behind "Fern" was really simple. This character is really appealing: Fern has his own personality, expression and attitude. Our goal was to show his personality in just one image. The pose was really important as we wanted to create a nice silhouette, give attitude to the character and show the character's soul (**Fig.01**). We used complementary colours for

the character and background to direct the audience to look at the character.

Modelling

Before I started modelling any of Fern's head, I wanted to be comfortable with the concept (**Fig.02**), so the first thing I did was study the character and imagine it in 3D. I had to take a moment like that to be sure that I was aware of all the important shapes in the character's face and to see how the muscles would work together. I often paint on the concept just to see where important lines are (**Fig.03**). It's so important not to rush your work in the modelling phase because, in the end, 3D software is just a tool. If you're not familiar with what you're going to model then there is a good chance you will lose a lot of time, or worse! In this "Making Of", you will be able to follow the progress and development of this image through the pictures. Here I can show you the modelling of Fern's head (**Fig.04**).


Fig.03

With the initial phase done, I was ready to start modelling. Whenever I start work on a model, I prefer to have a mass that will correspond to the proportion. It's really hard to begin by just extruding edges. So, basically, I started with a simple box with a meshsmooth modifier (iteration 1) that I converted in editable poly and start adding edges, following the model sheet. At this stage, I didn't really care if the model was clean, I just wanted to get the right proportion because while the proportion wasn't going to be final, it gave me an excellent reference to work from. A good tip when you are modelling a head is to add ears at the beginning. It doesn't matter if it's the final ear or an ear from another character, just add a pair of ears as a place holder! This will help you a lot in making your character come alive in front of you right from the beginning, and it will be a lot easier to work on the facial proportions.

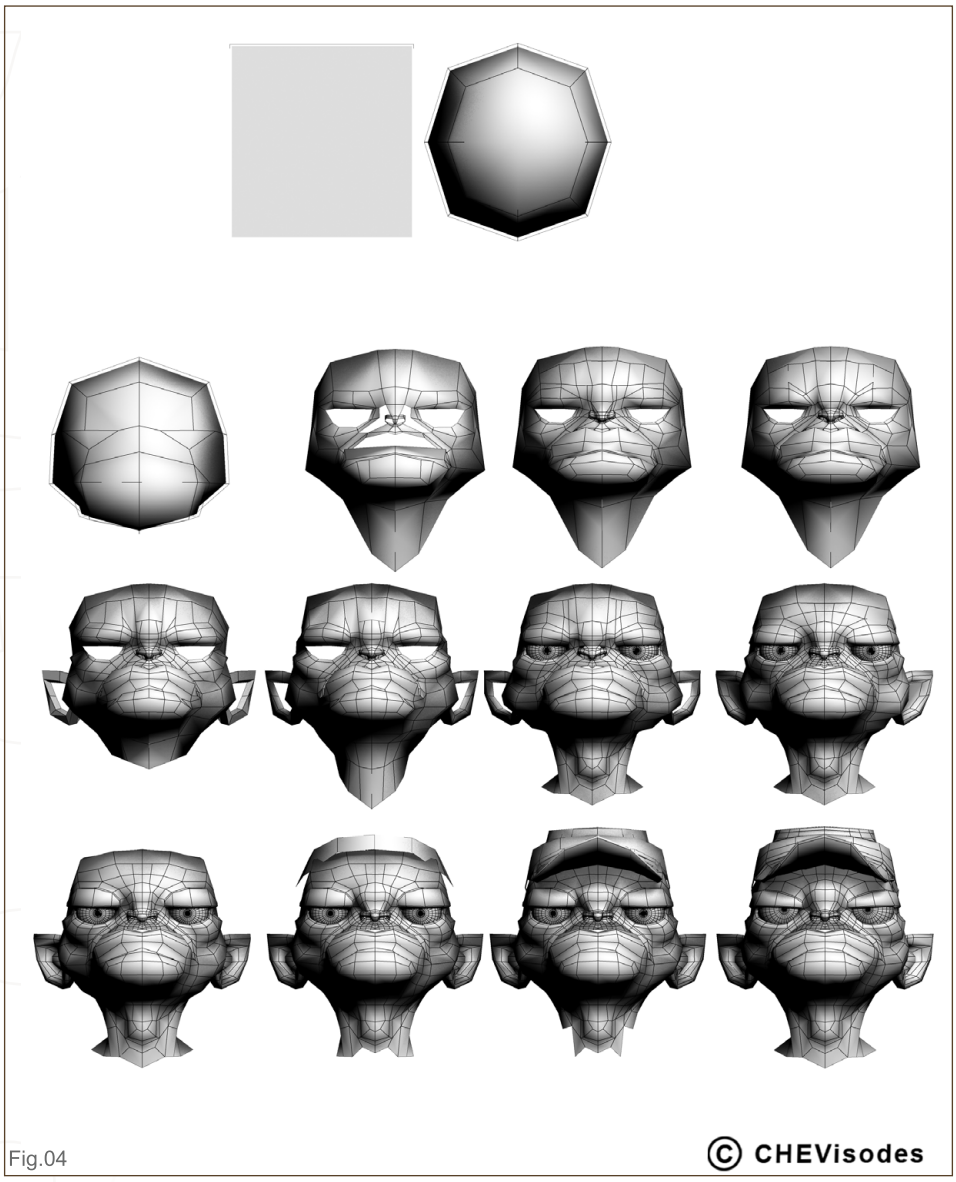


Fig.04

So when that was done and I was happy with the shape, I started to focus more on having a clean mesh that follows muscle. It was now time to delete and reconstruct. In this step, I didn't focus on detail, I just added important lines because even if the proportions are correct at first, it's easy to destroy them! So, during the reconstruction stage, I always take care to adjust the proportions every time I'm adding edges so that I won't finish this phase with weird proportions. This character was quite different from those I've done in the past, because a lot of the details were concentrated and squeezed near the nose and eye area. I had to take care to keep the right proportions and deal with lots of poly in this area. But I knew where the important lines were, so I just followed them, as you can see from the progress picture, and I ended up with something I was happy with. As you can see, the final model of the face in the progress picture is not like Fern's final face

(**Fig.05**). There are lots of differences in the eyebrow and nose sections. On the concept, the eyebrow looks pretty good, but it's not as great on the 3D model, so, I passed the model to Patrick Beaulieu. He had a fresh vision of the head, because he hadn't worked on the face yet. He did a great job reshaping problematic sections and keeping the model as close to the original model as possible. After that we made some minor tweaks and the head was done.

To conclude this modelling section, you should always make sure that the proportions are correct right from the beginning. Cleaning the model is far easier this way, so I kept that for later. Follow the important lines with polygons and this will give your model better proportions, fewer polygons, and it will make for better deformation for animation.

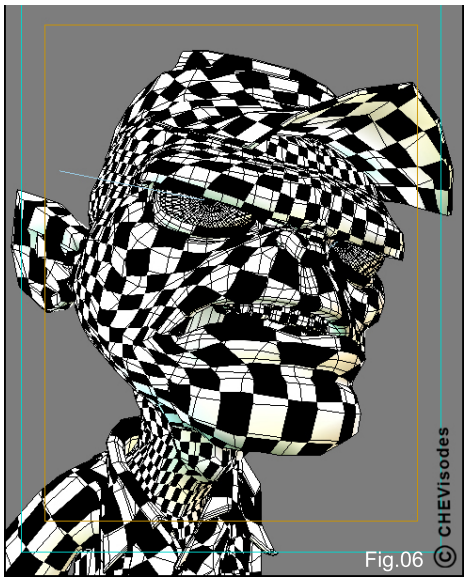


Fig.06

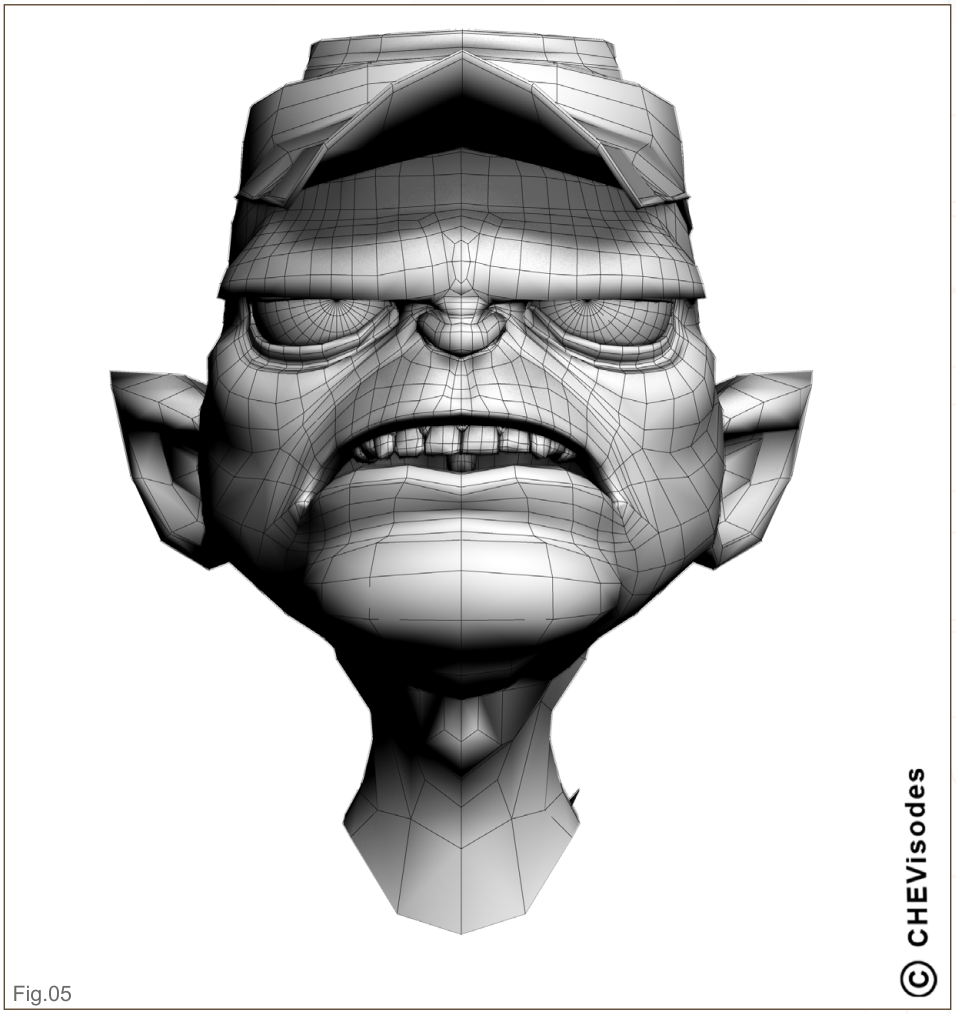


Fig.05

Texturing

In this section, I will explain the process used for mapping, high resolution sculpting and shader creation that I used for Fern. First of all, I took the model from our modelling team and examined it thoroughly for anything that might hinder the texturing job (uneven polygon density, stretched polys, triangles, etc.). Next, I unwrapped the model using 3ds Max's unwrap modifier for the greater part (**Fig.06**), and also the handy relax function of UVLayout. After some tests, I decided to use three UV regions: one for the head and arms, one for the eyes and one for the rest of the body. This was because I wanted to keep the parts that would have very different shaders applied to them separate.

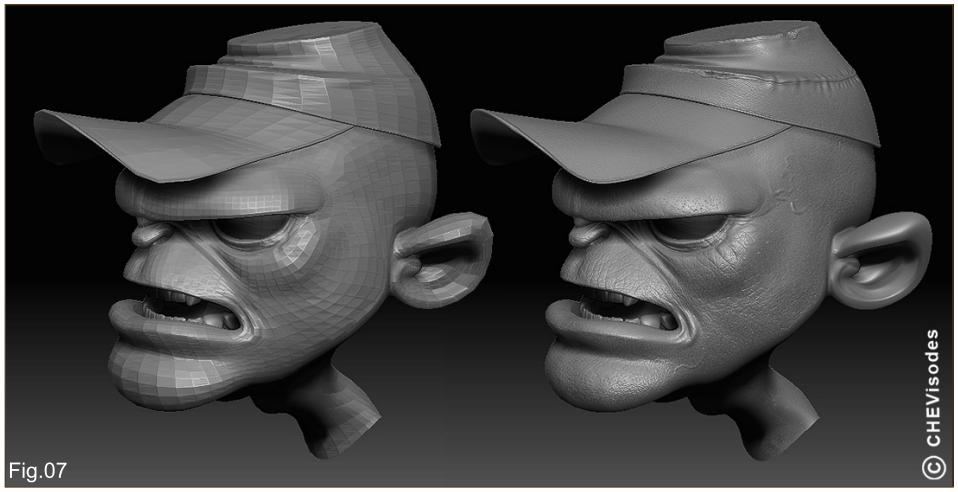


Fig.07

With every part properly unwrapped, I exported an OBJ file containing all the body parts as separate elements. I did this to be able to use subtools, a great feature added in the most recent ZBrush release. I then imported the OBJ into ZBrush and used Tool > Polygroups > Auto Groups to give every element a specific group, and then Tool > SubTool > GrpSplit to split them into different subtools. Subtools allow for a much more precise and manageable high-res modelling job because you can subdivide the

part you are working on up to ZBrush's allowed maximum for your machine, and then return to subdivision level one to work on another part. With everything ready, I started sculpting the mesh. I suggest starting with the main shapes and using the layer system to add levels of detail. For sculpting, I mainly used ZBrush's default brushes and the stencil tool with photographic alphas. Once I was satisfied with the sculpt, I rendered the displacement map, the normal and cavity map with Zmapper (included with ZBrush), and I exported them back into 3ds Max for the shader job (**Fig.07**).

For Fern's skin, I used Mental Ray's fast skin shader. It renders fast and gives good results for the sub-surface scattering. I made a diffuse map using photos, and a specular map from that diffuse. The displacement map was used to give detail to the character's silhouette. The eye has a stylised cornea and iris to make it catch light in a realistic way. The iris has a high specular value, and the cornea renders only reflection. A normal map is used on the surface of the eye to make it look wet and imperfect, and to help with the bulge of the cornea. The rest of the body uses standard maps (diffuse, normal, specular, reflection), with a bit of sub-surface scattering for the thinner cloth part (**Fig.08** & **Fig.09**).

About Fern's Rig

The main idea behind this rig was to make it very intuitive for the animators, which is why the visual interface was created (**Fig.10** & **Fig.11**).

Basically, it controls everything on the rig; instead of using sliders, that some animators just can't stand, buttons in the interface handle the IK/FK switching as well as the dynamic linking, and even the selection and the trajectories. Also, what's interesting with this is that it's quite accessible! Making such a visual

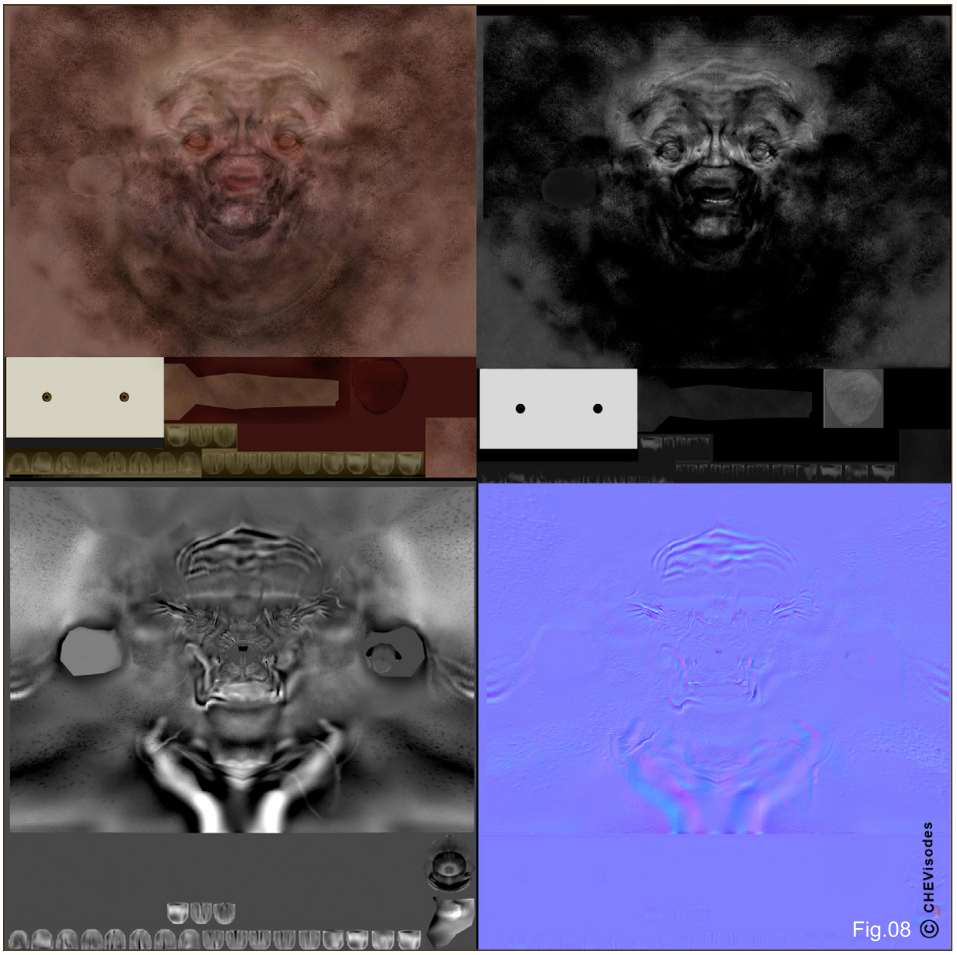


Fig.08

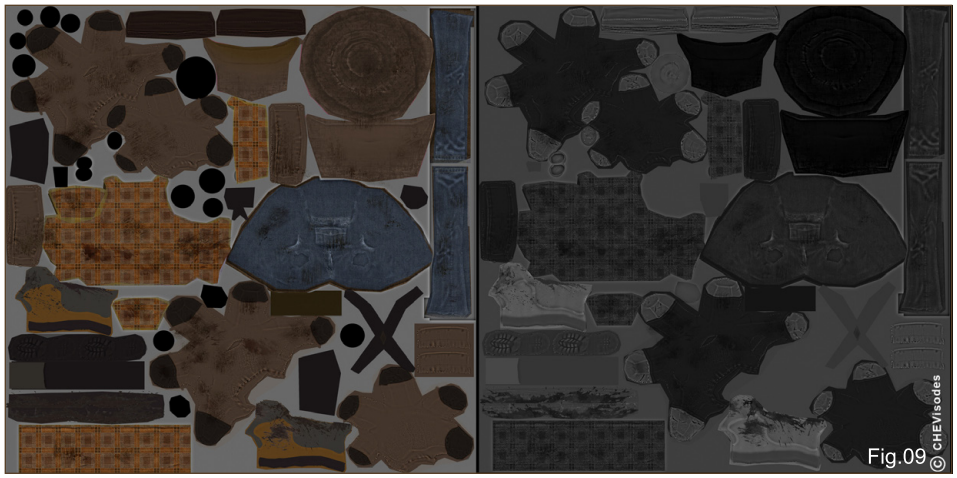


Fig.09

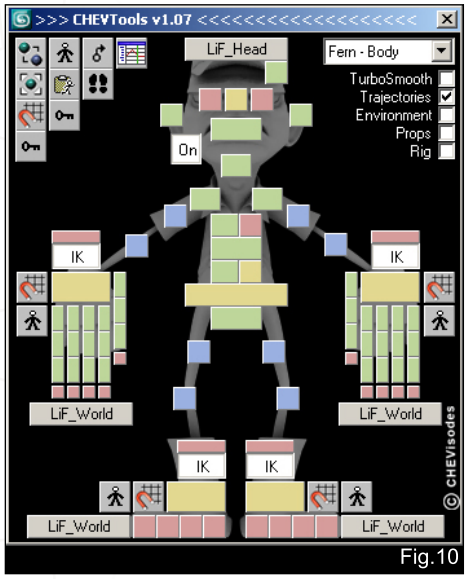
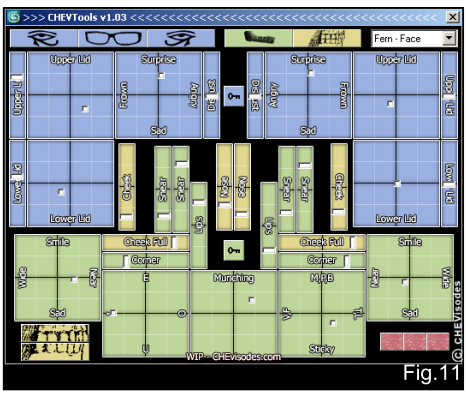


Fig.10


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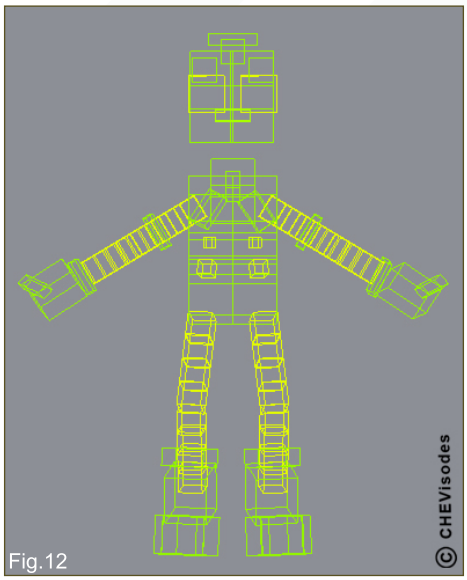


Fig.12

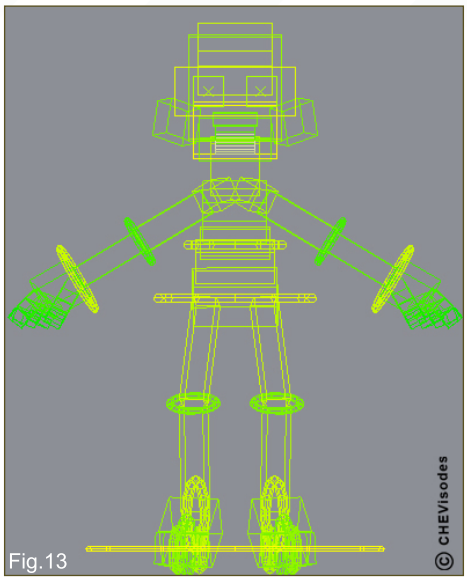


Fig.13

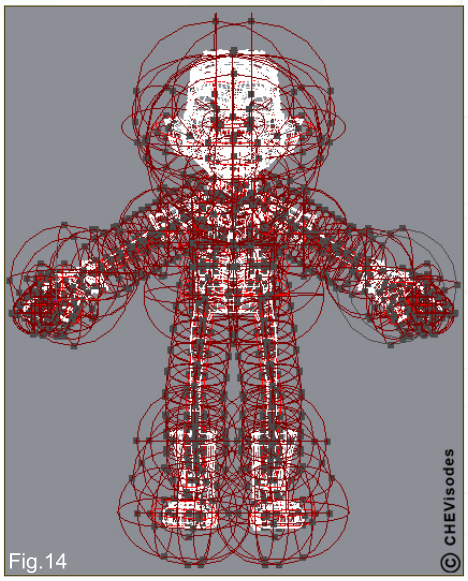


Fig.14

interface does not require a high level of scripting skills; for example, when I was at school I made my very first visual interface in 3ds Max using only the macro recorder and visual MaxScript. Making those interfaces is fun, so try it for yourself!

Actually, the less complicated but longer step was the skinning. Because of the Deformation Layer (**Fig.12**) on top of the Control Rig (**Fig.13**), there were a *lot* of bones in the skin (**Fig.14**). I'm showing you the envelopes to show you just how many bones there are inside Fern (although I don't use envelopes to skin characters). For the skinning, I used a technique that I will call "substractive skinning"; for example, I skin every point of the leg to the thigh bone, and then I go on the calf bone to "steal" some weight for the thigh in the knee area, then all of the foot area will be weighted to the calf, and then the same thing goes: the foot will "lend" some weight to the calf. I find this technique to be very good in creating rough skinning



Fig.15



Fig.16

(before the painting), or to skin low resolution characters.

This kind of project is a good opportunity to learn how some techniques work and others should be avoided. This will be shown in Dpuppet – a new rig in progress that will be available for free so animators of the world can enjoy some Fern-like animation (the visual interface will be included, too), so stay tuned on **www.D-Puppet.com** for updates!

Compositing

The compositing was the simplest part in the creation of this image (Fig.15). We created this character for a webisode. Fern was built to give

us the ability to render an animation sequence really quickly, without render passes and without a complicated process – one click, one render. We added some tweaks to the final image, added a background, tried to remove the 3D effects, adjusted the brightness and contrast and added some details. We used the lighting effect tool in Photoshop on the final images to adjust the lighting. This did a good job in boosting the colours, the intensity, and mixing the background with the character.

Conclusion

So, finally, I hope you have appreciated this "Making Of". As you can see, there is lot of work behind this character and our team has worked really hard to create him. It was a great thing for us to make Fern and to see how we can work together, and we're happy to be sharing the final result with you. We hope that you will enjoy this character, too! Please don't hesitate to contact us at Chevisodes.com with questions – it will be a pleasure for us to answer them! I'm entirely at your disposal – if I have the time.

www.CHEVisodes.com (Fig.16)

CHEVisodes

For more from this artist visit:
http://www.CHEVisodes.com
Or contact:
squeezestdio@hotmail.com



3DC

Here is what's in next months issue of 3dcreative

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Jelmer Boskma
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Dominance War III
Snickers - Rugby
Headcases - The New Spitting Image!
How did you get exposure when you were starting out?

Tutorials

Modelling a Bugatti Veyron
Part 6 of this Mega Series for 3DSMax, C4D, Maya, LW & XSI!

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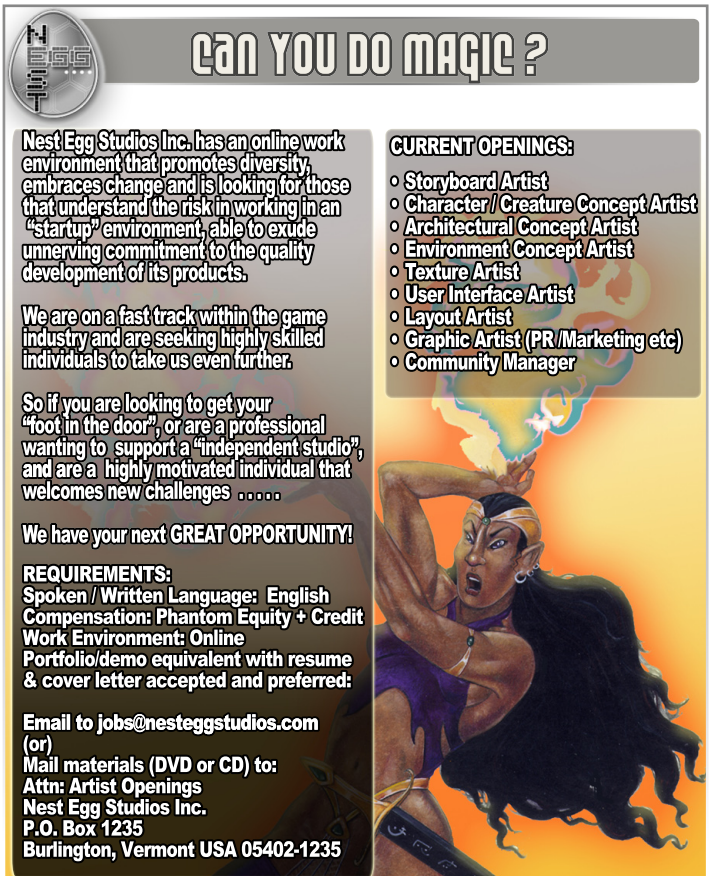
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low poly game character

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Introduction:

The original character of the Swordmaster was created by Seong-wha Jeong and we had 3DTotal's in-house 3d artist Richard Tilbury, re-create the character in 3dsmax as well as create the textures in Photoshop, in our new precise, step-by-step tutorial for highly polished, low polygon game character with detailed texturing for real-time rendering. We have also converted the tutorials into Cinema 4D, Maya, Lightwave and Softimage platforms. Even if you are not a user of one of them, the principles should be easily followed in nearly all other 3D applications.

The Swordmaster tutorials is spread over 8 Chapters which outline, in detail, the process for creating the Swordmaster below are the details.





Chapter 1: Modelling the Head
Chapter 2: Modelling the Torso
Chapter 3: Modelling the Arms & Legs
Chapter 4: Modelling the Clothing & Hair
Chapter 5: Modelling the Armour
Chapter 6: Mapping & Unwrapping
Chapter 7: Texturing the Skin & Body
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car modelling series

3ds max

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This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

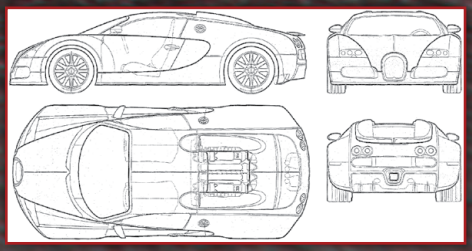
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
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Issue 035 July 2008
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BUGATTI VEYRON
PART 5 - INTERIOR

In the previous parts, we finished off modelling the exterior by constructing the wheels. To wrap up the modelling completely, all we need to do now is model the interior. For this interior I will only be doing the basic shapes to give you the base that you need if you want to add the details in later.

Before modelling the interior, I have to stress that it's important for you to pay extra attention to how your interior will be used. What way will you see it in the shots or images you're planning to make? Make these decisions and then apply the effort proportionally to what's needed.

For example, if you needed to generate high-res images of the interior, or you had camera shots that went into the interior, you would have to model all the details as accurately as possible. However, you might want to avoid this choice because I've learned the hard way that doing a highly accurate interior is really time-consuming, to say the least!

On the other hand, if you're doing the interior just so that you can render the car from the outside, you might be able to get away with far less. It all depends on what quality you are aiming for and the time that you have to do it in.

Here's the model that we've finished so far. The second image is the roof that we'll start this part of the tutorial by working on. To give the roof some depth, copy that part onto a separate object (**Fig01** and **Fig02**).

Give that object a new material with a different colour, so that you can distinguish it from the body parts when unhiding them. Flip the normals (the next image shows the roof from a lower angle, with symmetry on, so that it's easier to read) (**Fig03**).

Fig 01

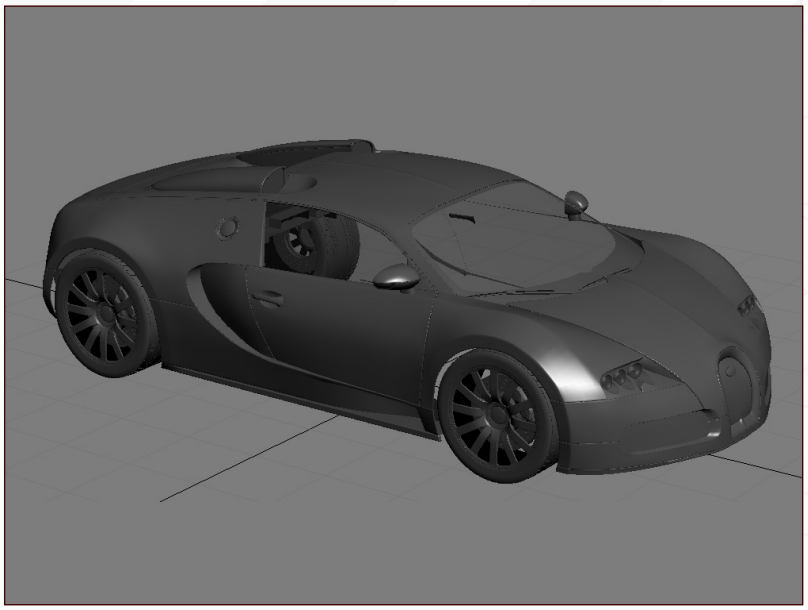


Fig 02

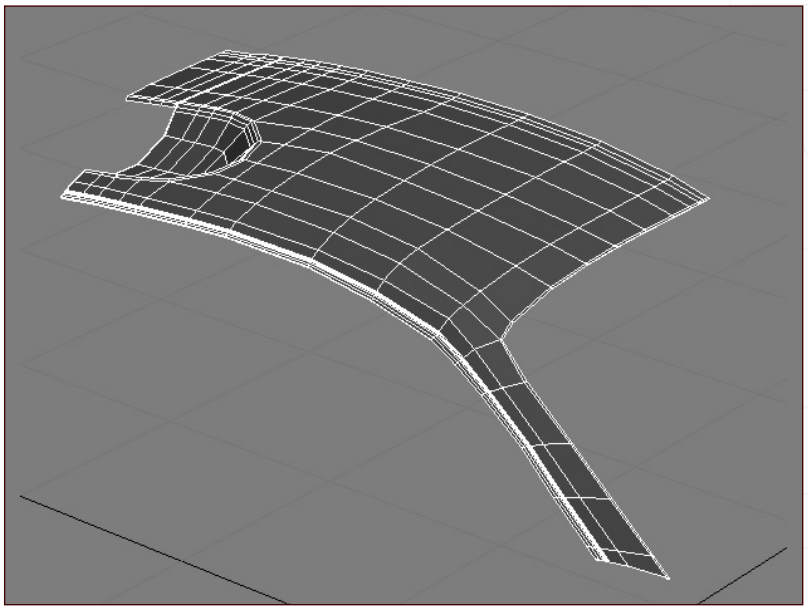
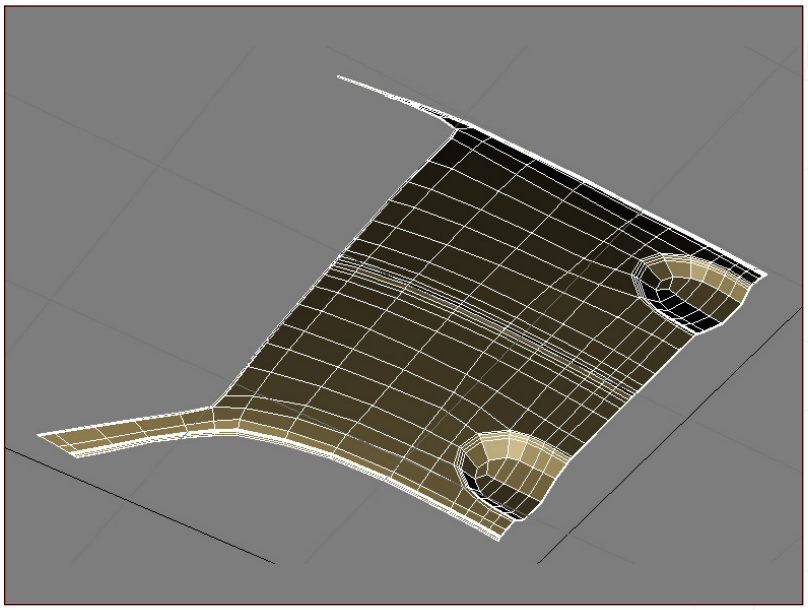


Fig 03



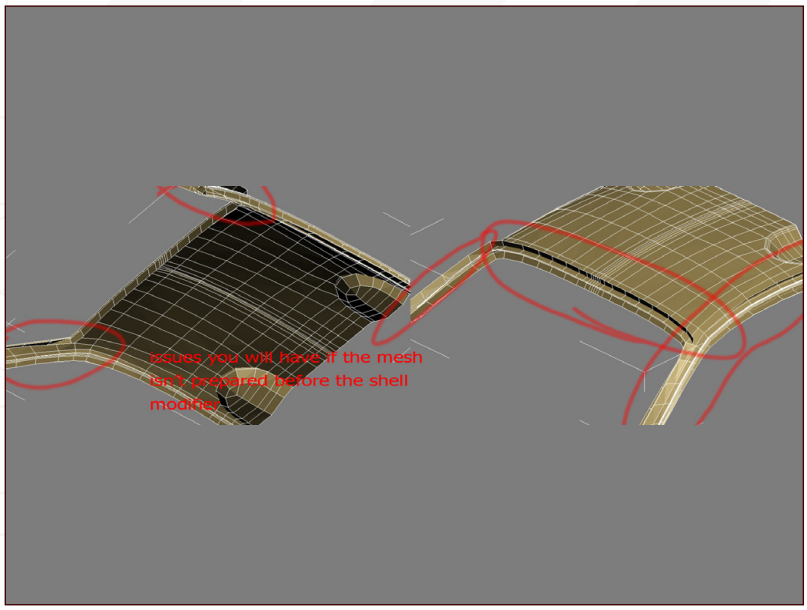


Fig 04

The next step is to apply a shell modifier to give the roof depth. Before doing this however, it's important to clean the mesh from any extruded edges or faces that we might have. If you have any of those remaining then they will cause problems when you add the shell modifier (**Fig04**).

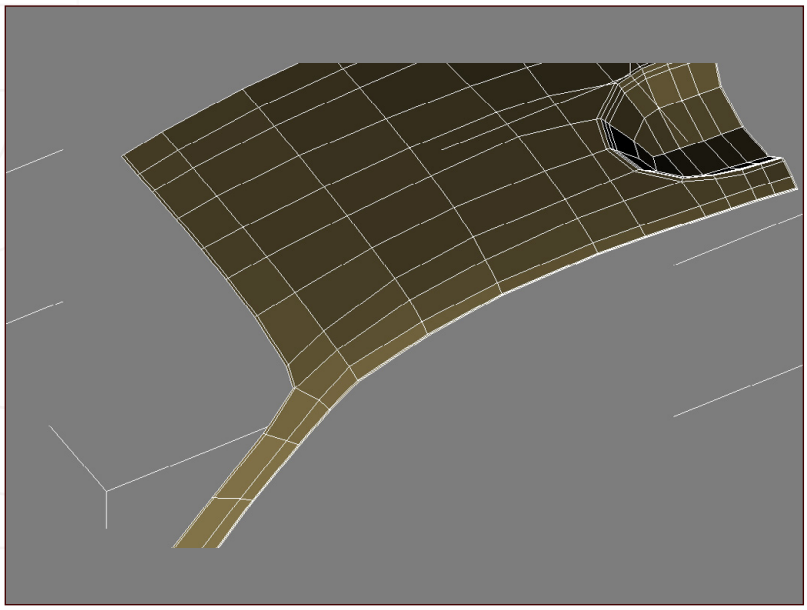


Fig 05

This is the mesh after deleting any faces which were extruded and removing a few edge loops to simplify the mesh even further (**Fig05**).

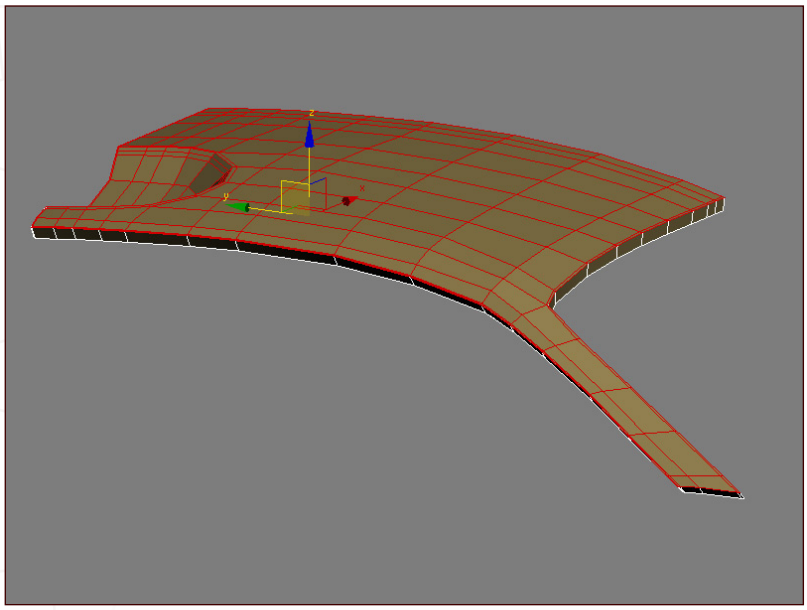


Fig 06

Apply the shell modifier and use the inner amount spinner; also tick the selected outer faces, then collapse the mesh and delete those faces (**Fig06**).

This is how it should look after applying the mesh smooth modifier (**Fig07** and **Fig08**).

Fig 07

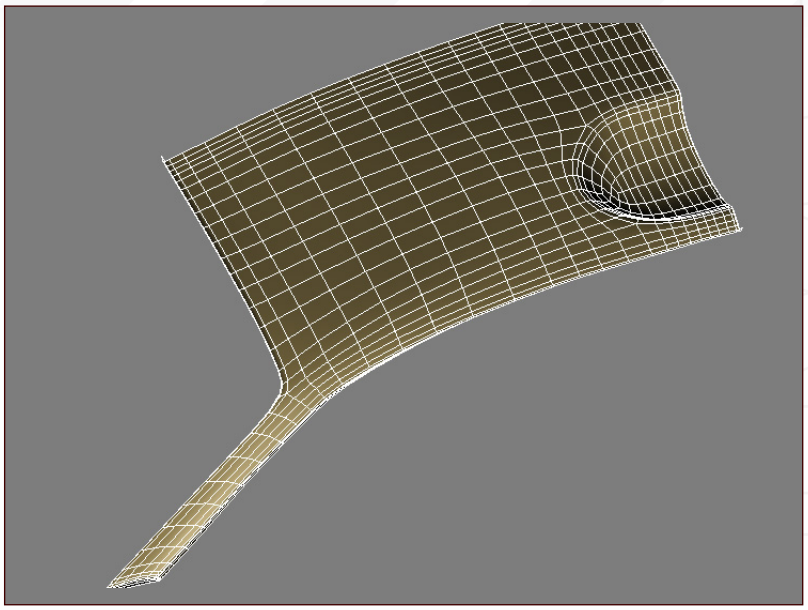
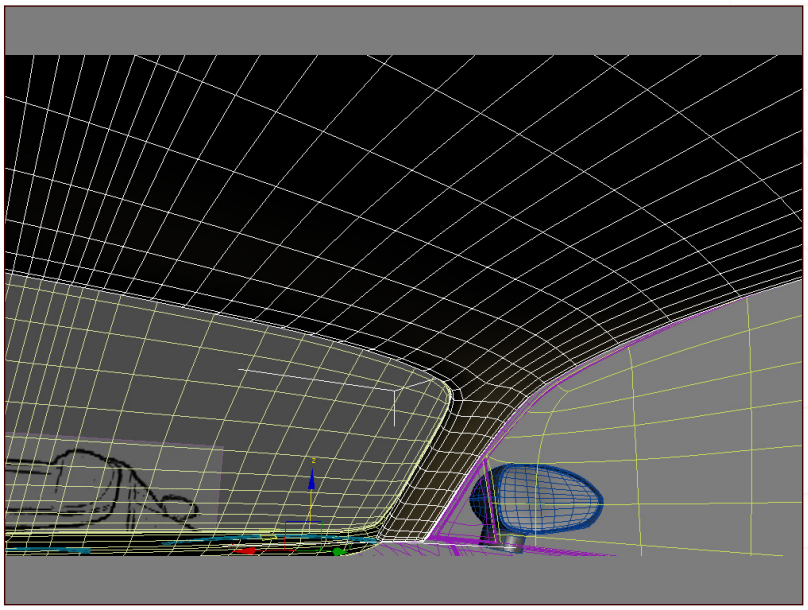
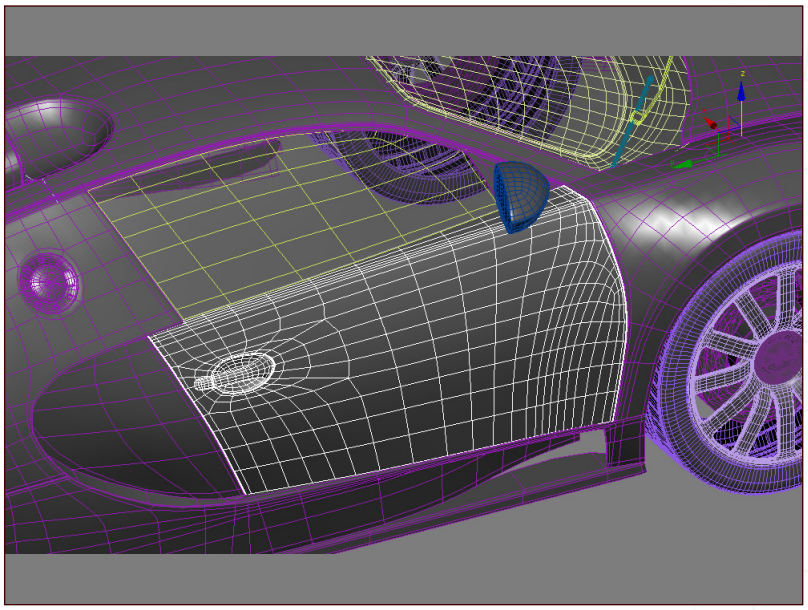


Fig 08



Now for the door. Select the door and handle elements and detach them into a new object (**Fig09**).

Fig 09



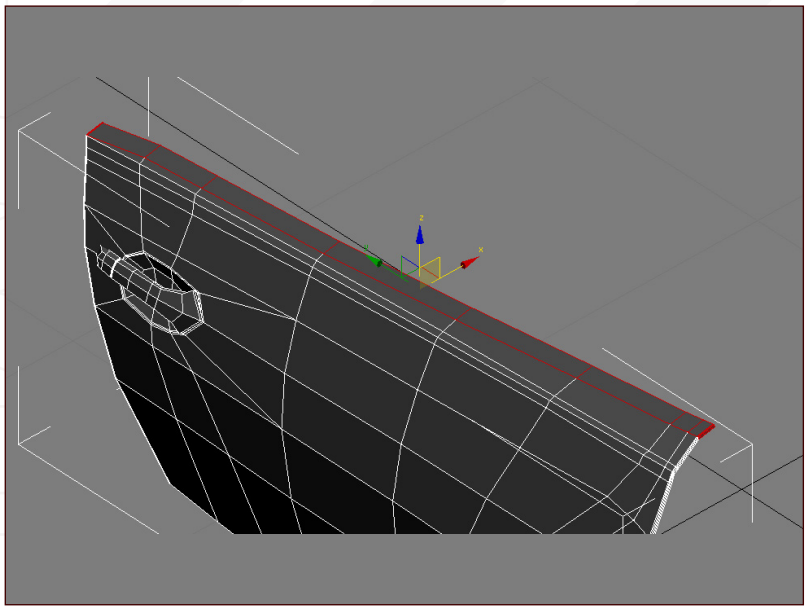


Fig 10

Extrude these edges from the door and have them as a separate object to get the base of the door interior (**Fig10**).

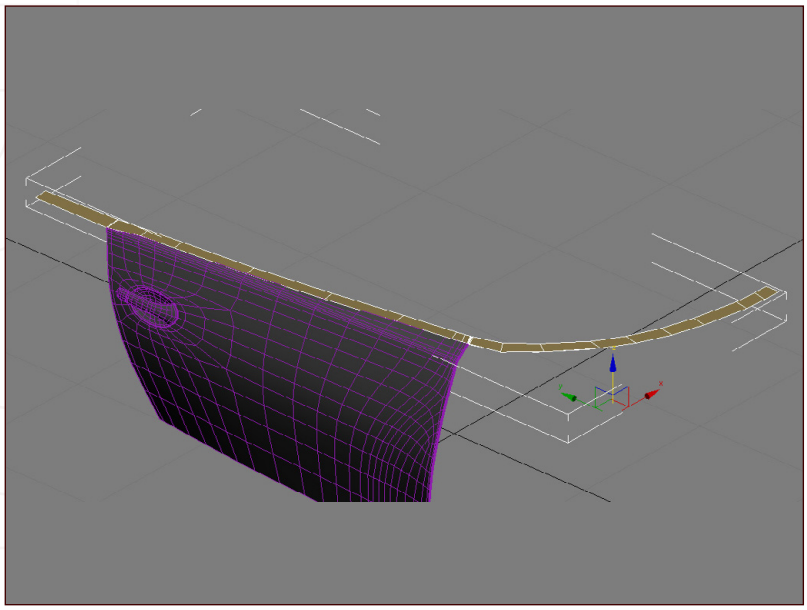


Fig 11

Copy these edges again to form the remaining interior padding, then copy them downwards and add extra edge loops in the door intersection areas (**Fig11, Fig12** and **Fig13**).

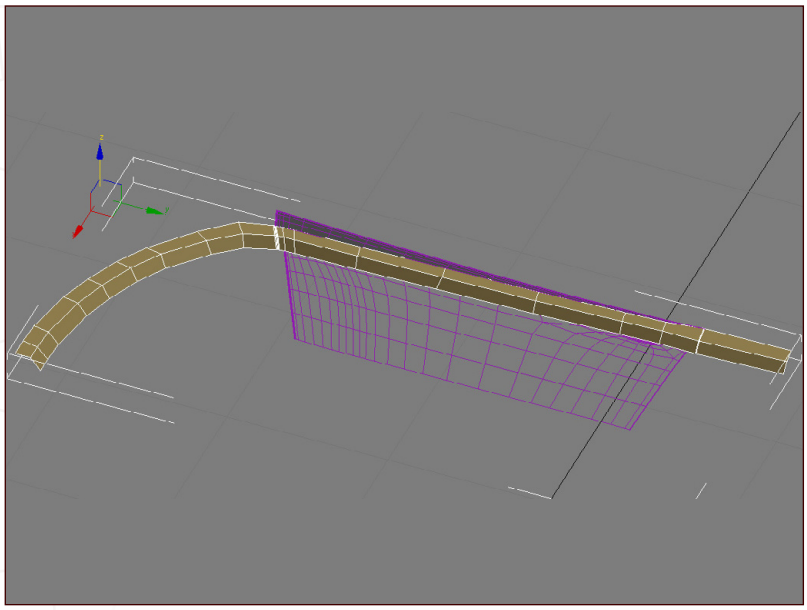
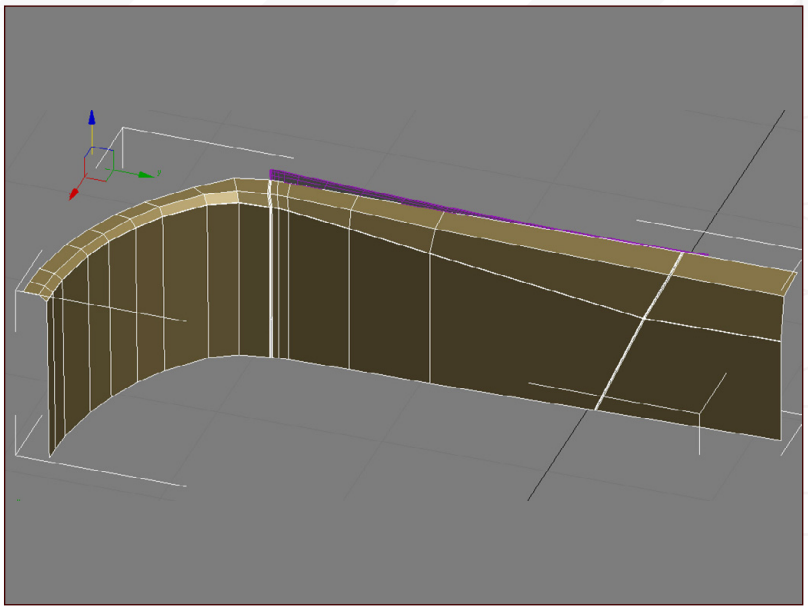


Fig 12

Fig 13



Delete the face loops that were at the intersection areas, adjust the shape of the door interior a bit and give it some depth (**Fig14** and **Fig15**).

Fig 14

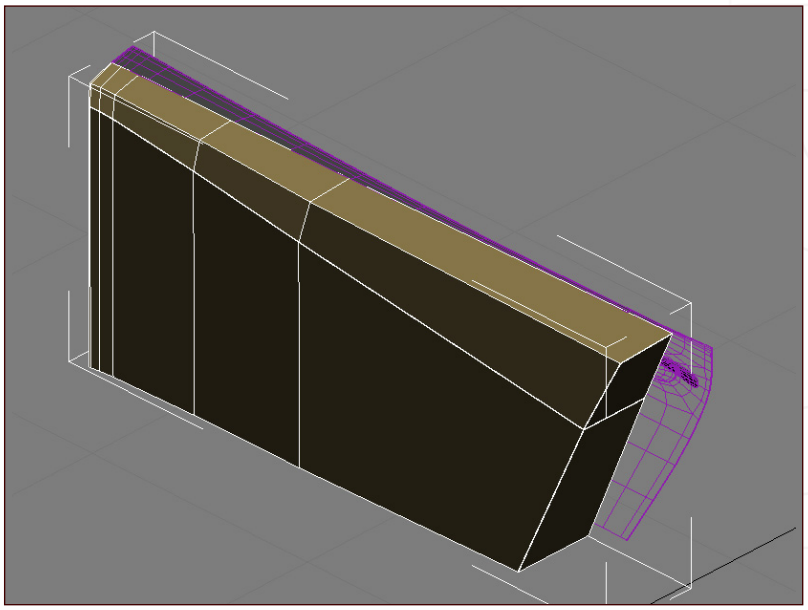
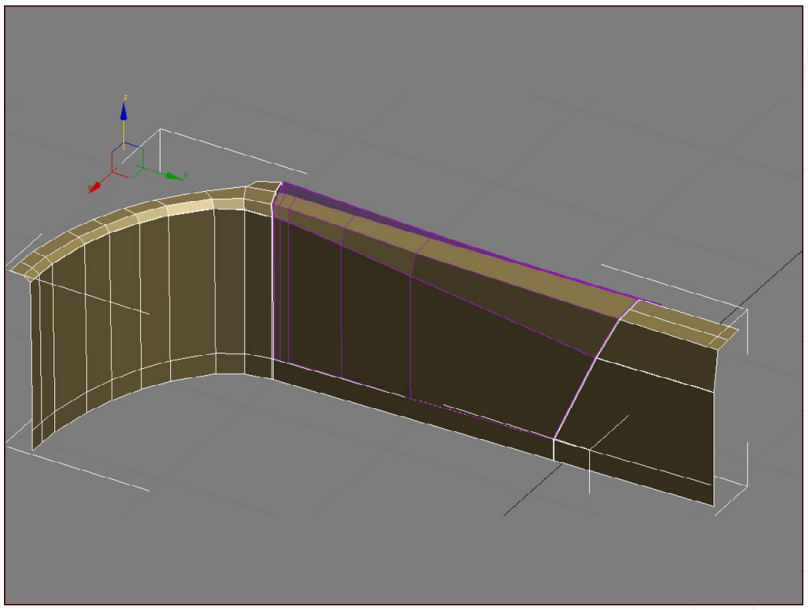


Fig 15



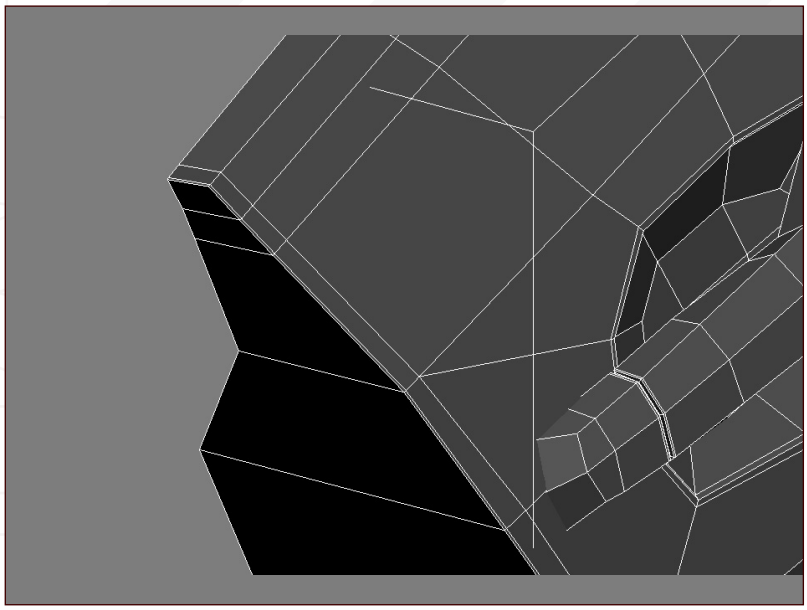


Fig 16

Give the actual door (the exterior door) some depth as well and then extrude the newly added faces inside. As in the reference photos, connect everything with a trimmed edge (**Fig16, Fig17, Fig18, Fig19** and **Fig20**).

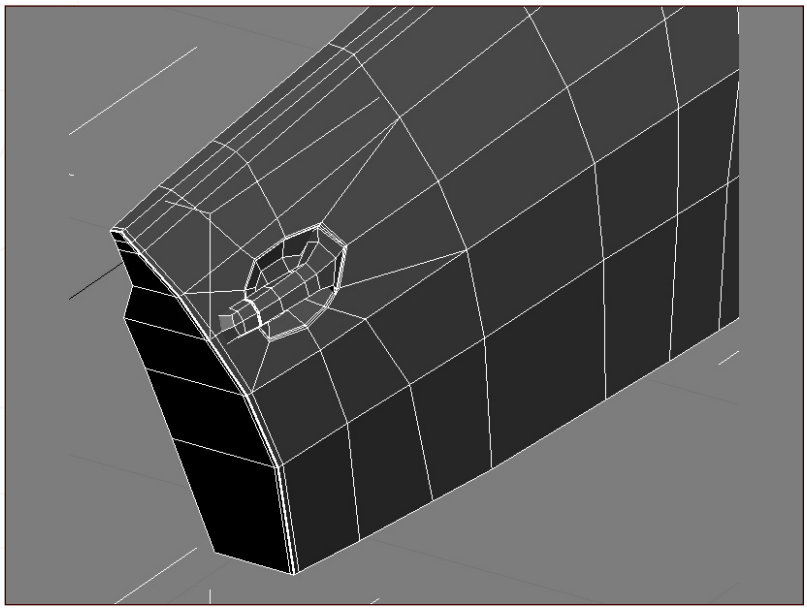


Fig 17

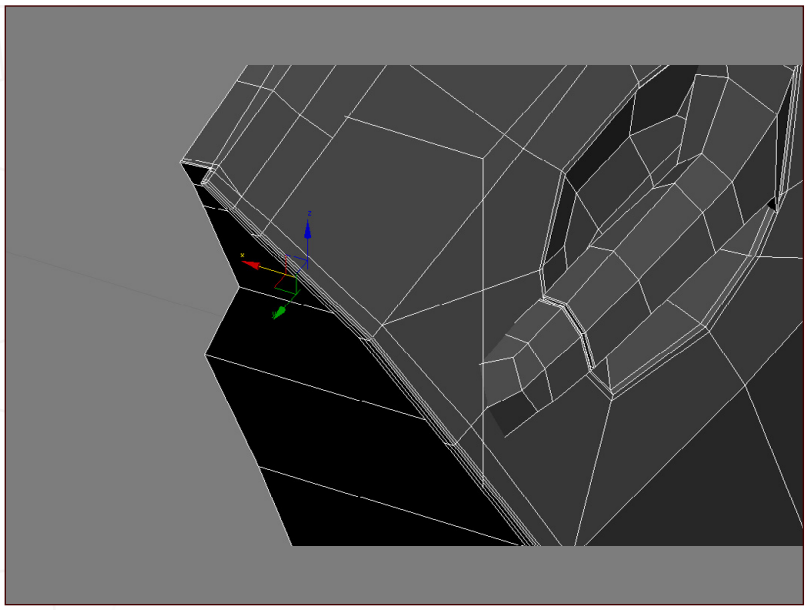


Fig 18

Fig 19

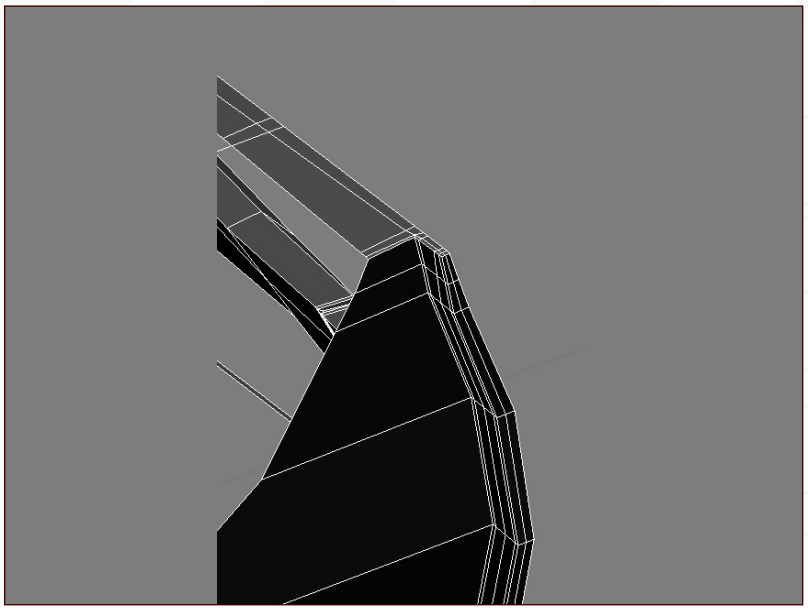
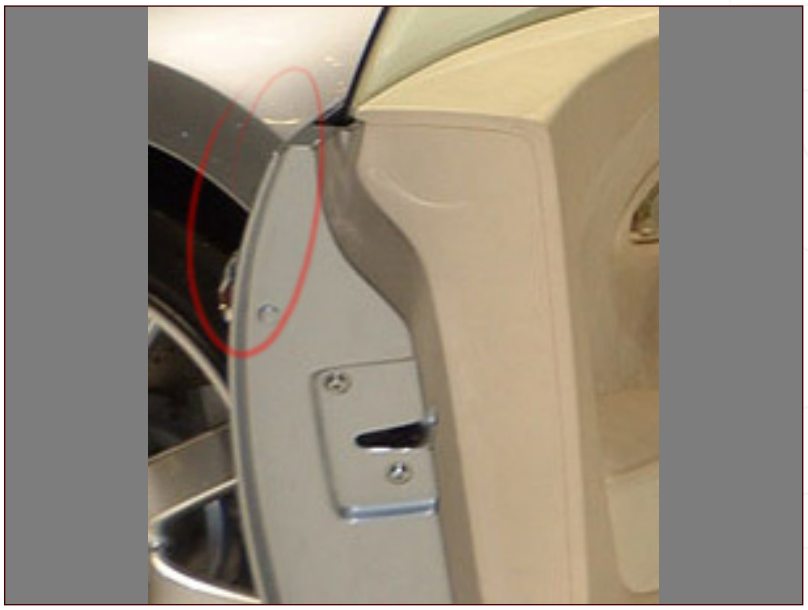
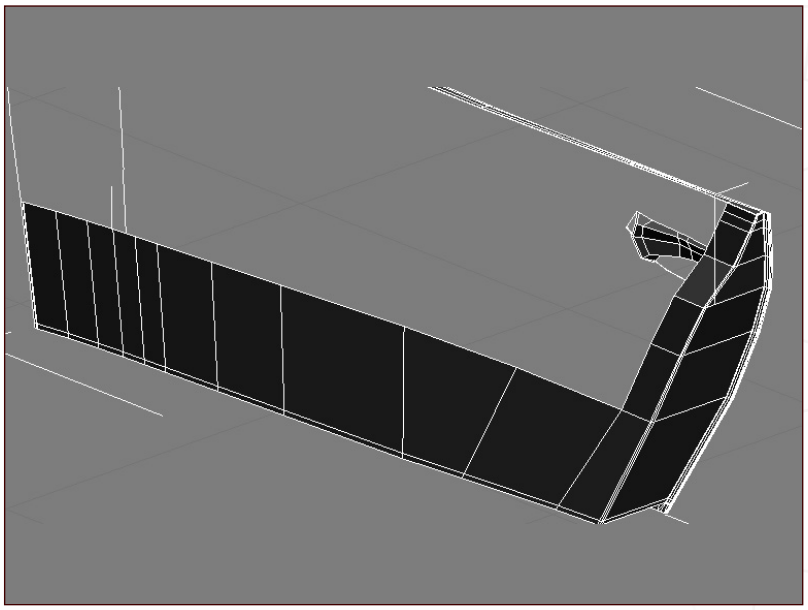


Fig 20



Copy the exterior door edges further (**Fig21** and **Fig22**).

Fig 21



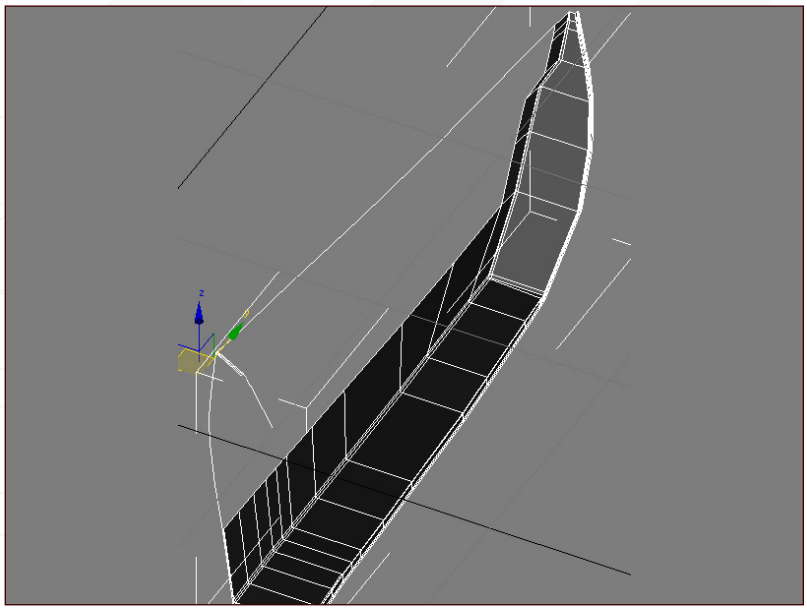


Fig 22

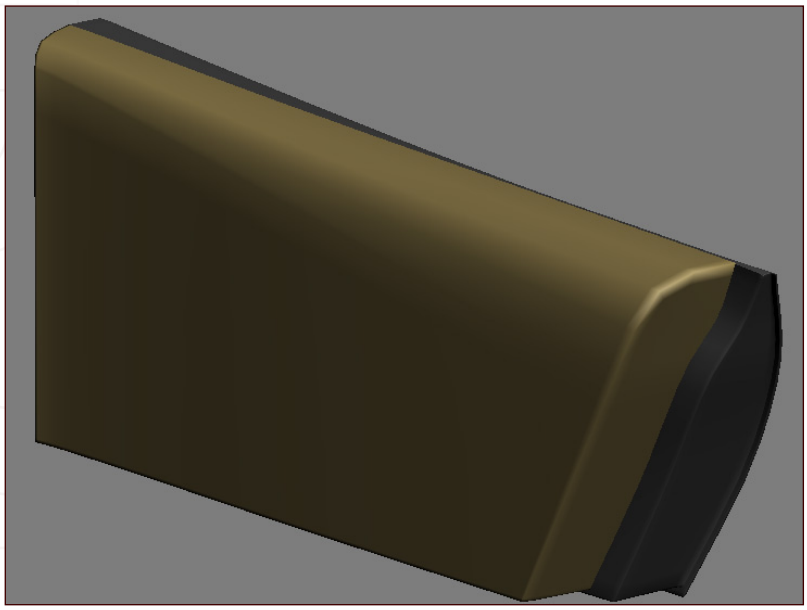


Fig 23

Un-hide the door's quick interior padding that we created and select the door, then adjust its pivot point. After that you can either attach the door interior or just link it to the actual door (**Fig23** and **Fig24**).

Remember, I've just given you the base of the door to work on here - there are a lot more details that can be added if you want to.

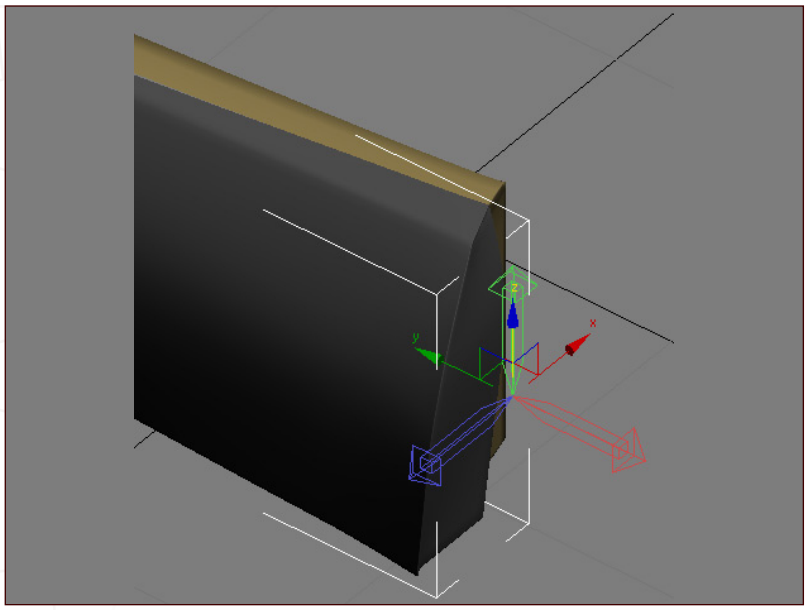


Fig 24

Next we can move onto the chairs. Luckily the side blueprints we used have a simple drawing for the chairs, which you can trace out. (As we noted in the previous parts, blueprints aren't always 100% accurate and it's always better to double-check everything by looking at the reference photos!) The process of modelling the chairs is as shown in the images (**Fig25, Fig26, Fig27, Fig28, Fig29** and **Fig30**).

Fig 25

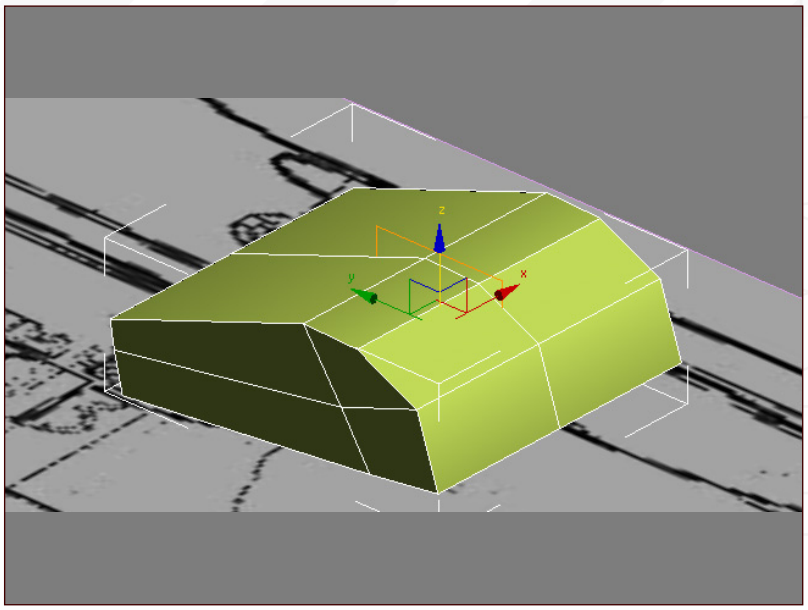


Fig 26

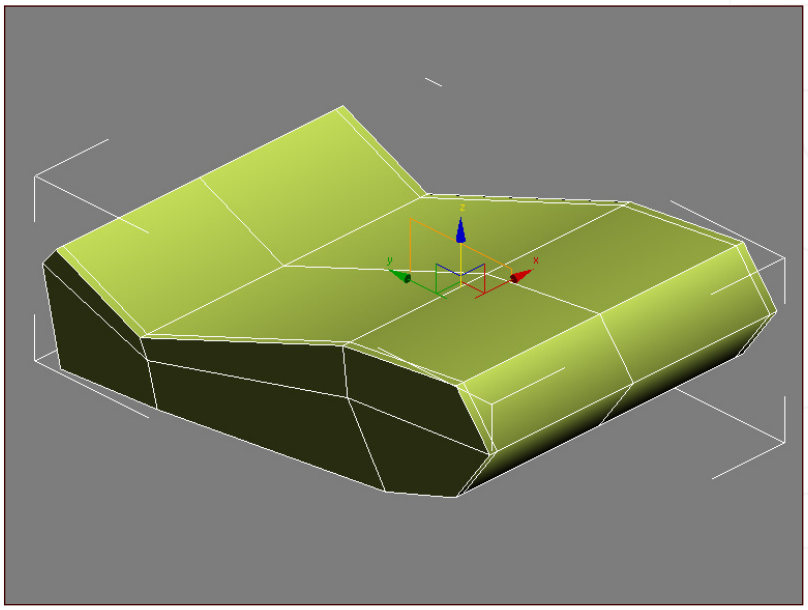
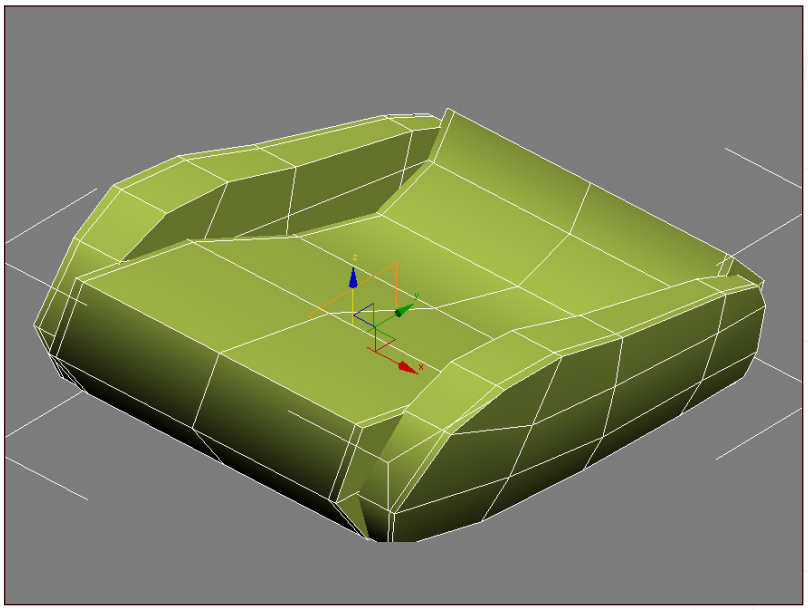


Fig 27



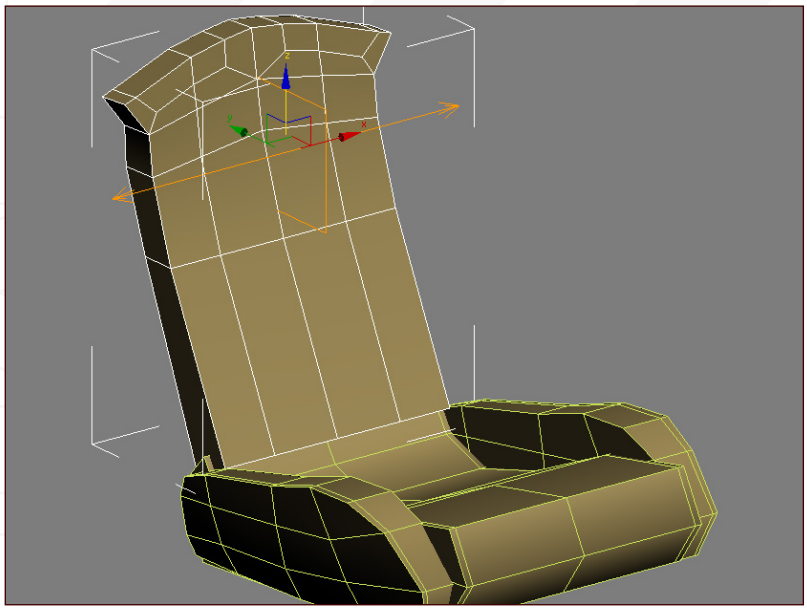


Fig 28

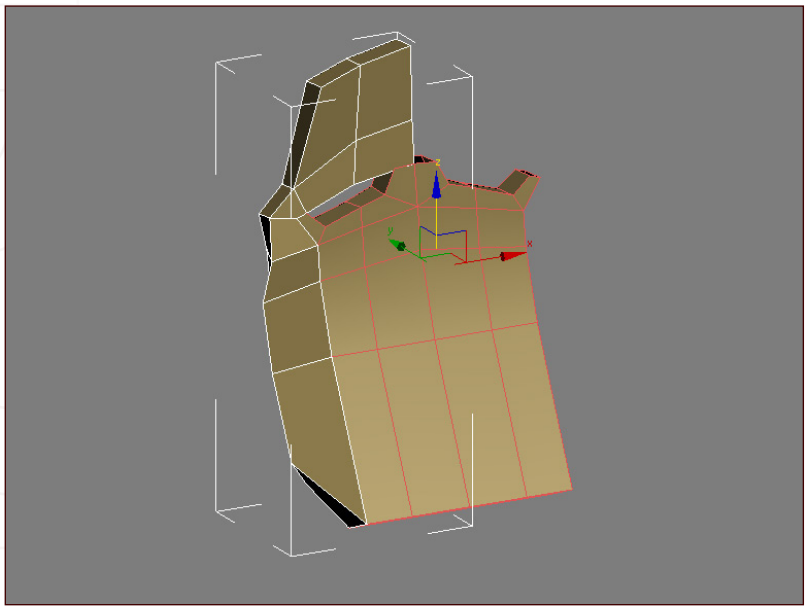


Fig 29

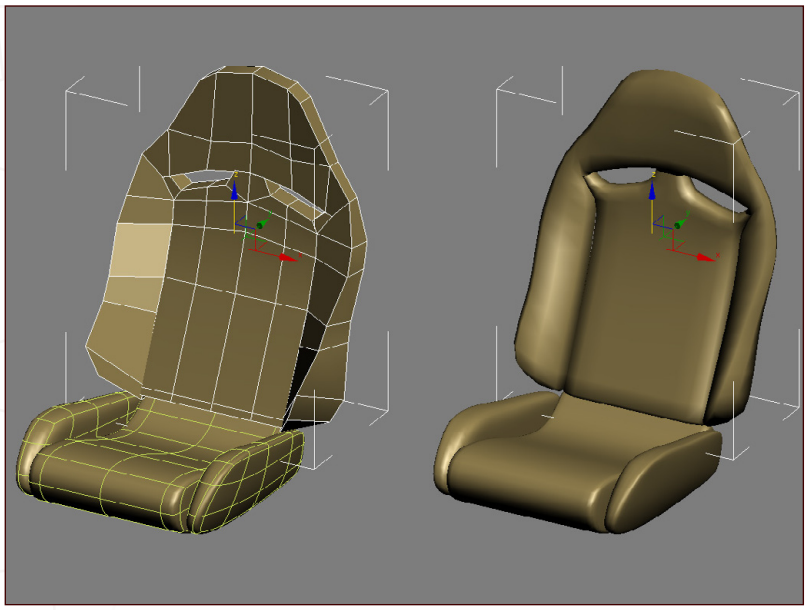
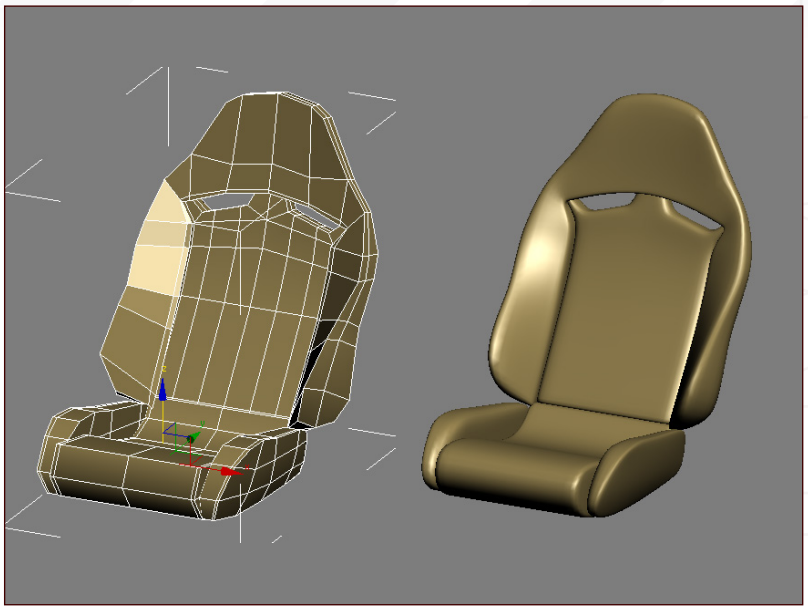


Fig 30

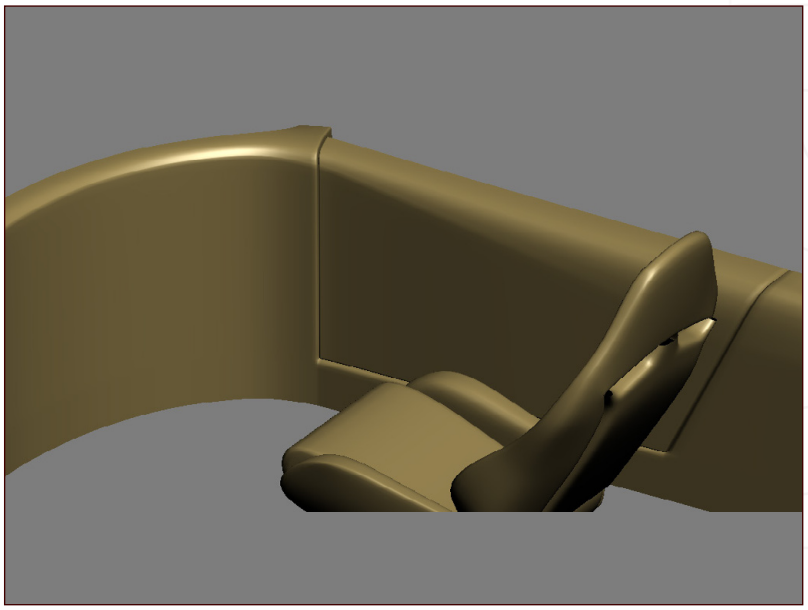
Add a few edges to give you sharper fillets (**Fig31**).

Fig 31



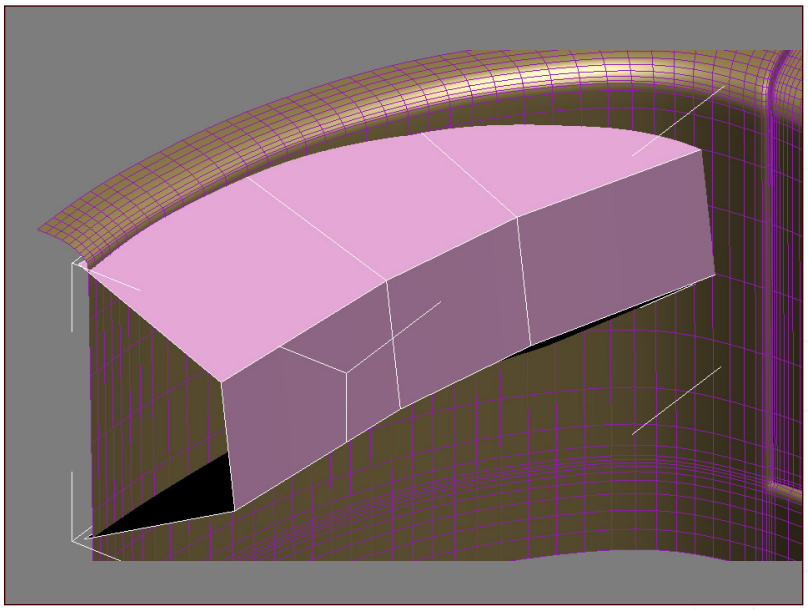
Again, this is just the basic shape and you can add a lot more detail in if you want. I decided to focus on the main principles for this tutorial because if we model the interior in full detail, then this tutorial would become incredibly long! (**Fig32**)

Fig 32



Now add the dashboard (**Fig33, Fig34** and **Fig35**).

Fig 33



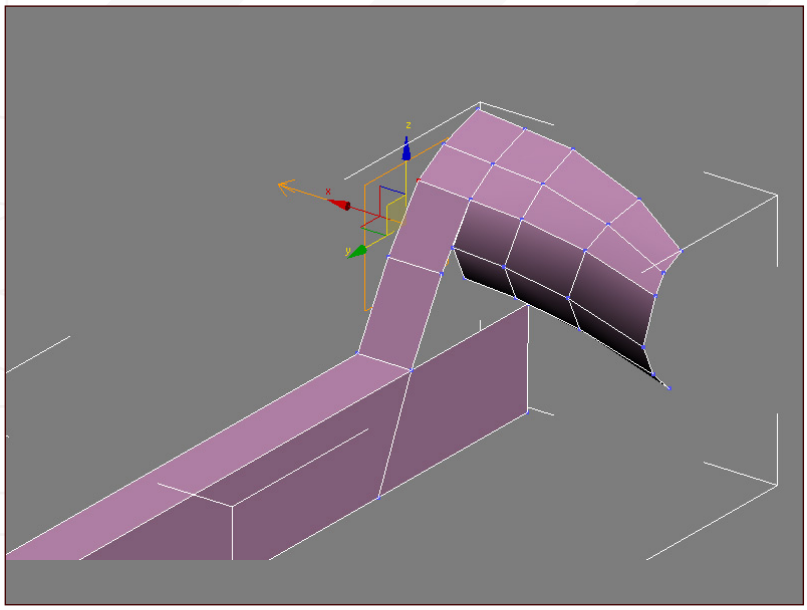


Fig 34

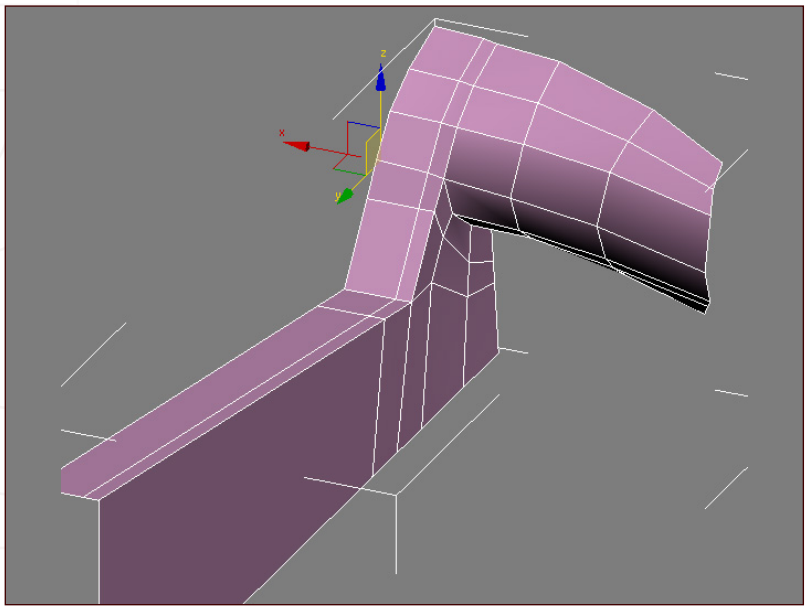


Fig 35

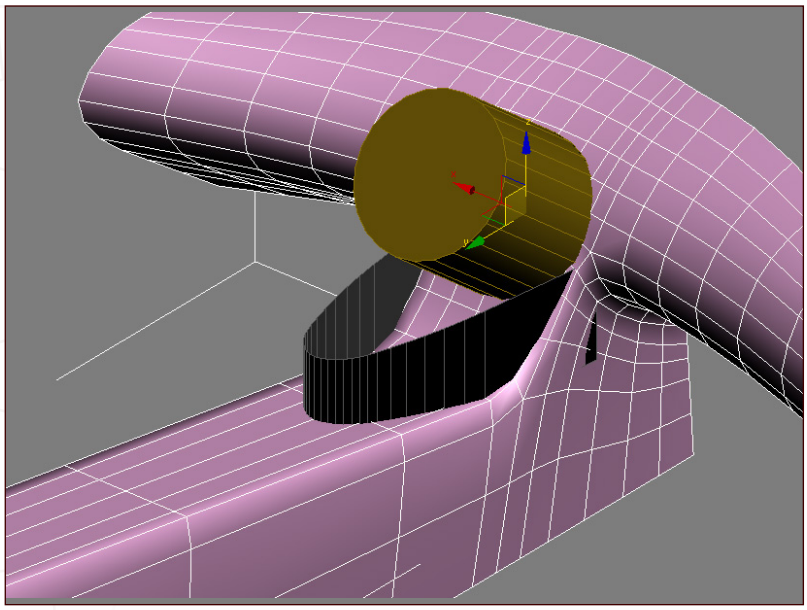
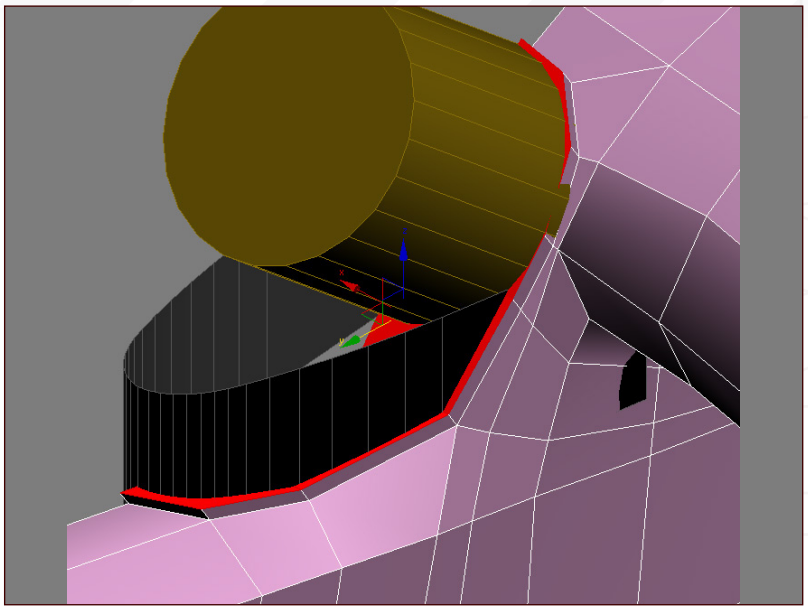


Fig 36

For the centre console, which holds the gear knob and some of the air conditioning vents, use the same method of placing reference objects (as a cylinder or an extruded curve) to help you decide where to place the polygon cuts. Then extrude those polygons (**Fig36** and **Fig37**).

Fig 37



With the main shape sorted, add a few edges, then detach the centre faces and delete the ones you see in the images (**Fig38, Fig39, Fig40** and **Fig41**).

Fig 38

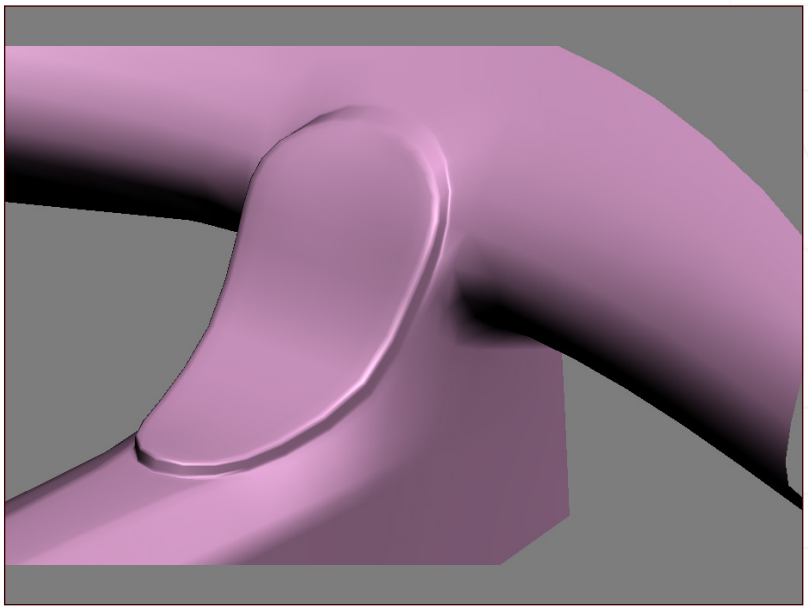
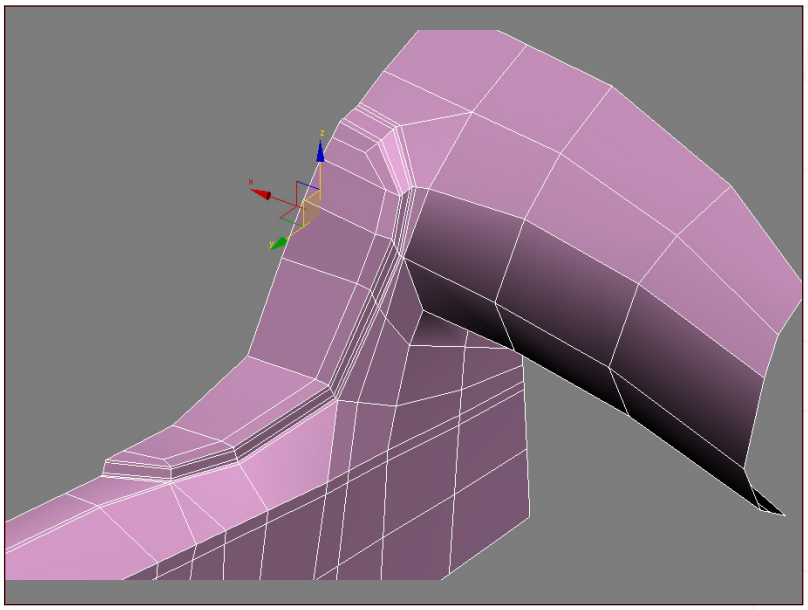


Fig 39



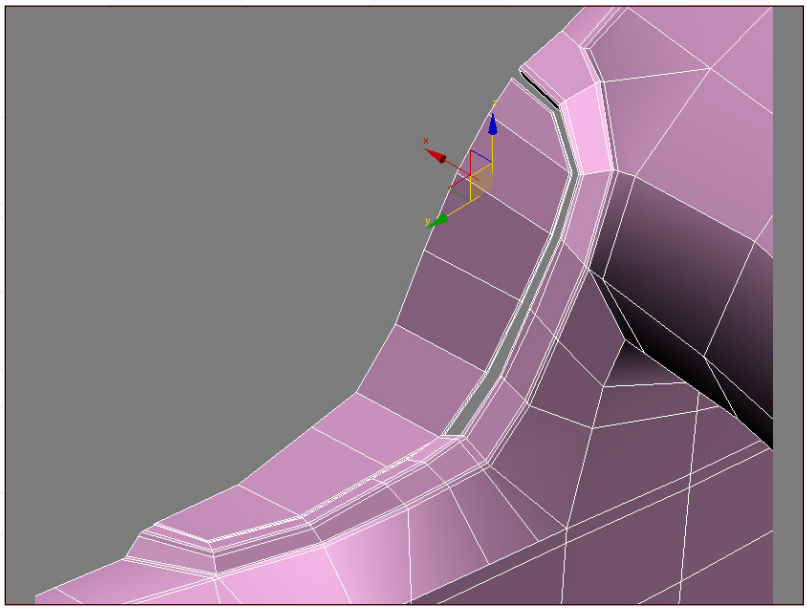


Fig 40

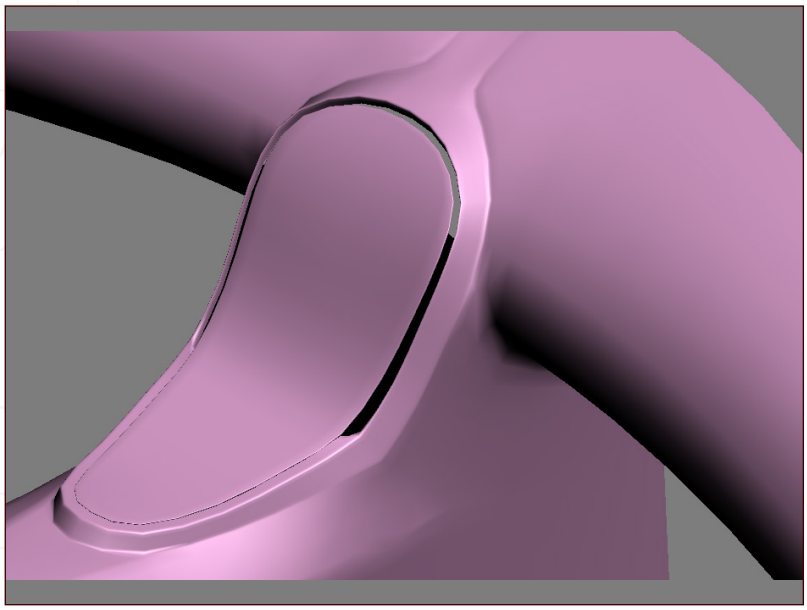


Fig 41

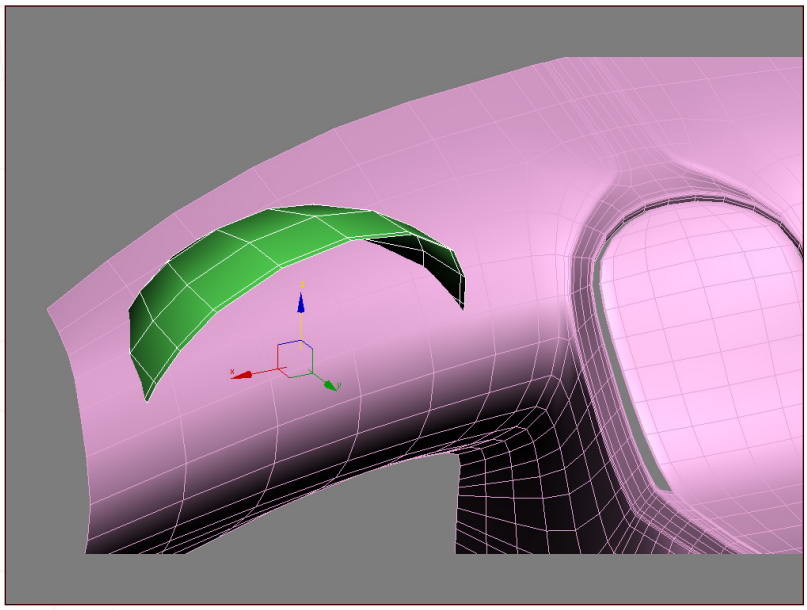
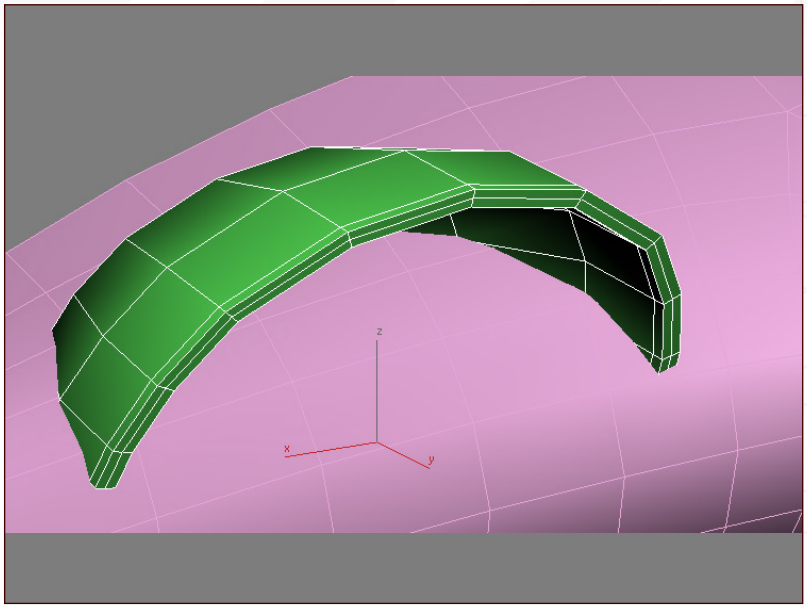


Fig 42

For the dashboard instruments and dial covers, create a quick sphere, then delete some of the faces and add a shell modifier. If you want, you can then add quick dials by modelling them or using a quick texture if you're in a hurry. (**Fig42** and **Fig43**).

Fig 43



Creating the steering wheel is the same as creating the other interior parts. I just made the basic shape to quickly demonstrate the procedures – please don't mistake this for a highly-detailed and accurate interior! Any modeller looking at the reference photos and snapshots of the interior I've made would notice a tonne of things that need to be fixed to make it more accurate. What we've done can easily be the base for adding more details and for doing an accurate detailed interior as the same techniques can be used to model an exact replica of any car interior (very close to an exact replica!) but you do of course need to spend the extra time to make it more accurate and add more details (**Fig44, Fig45, Fig46, Fig47** and **Fig48**).

Fig 44

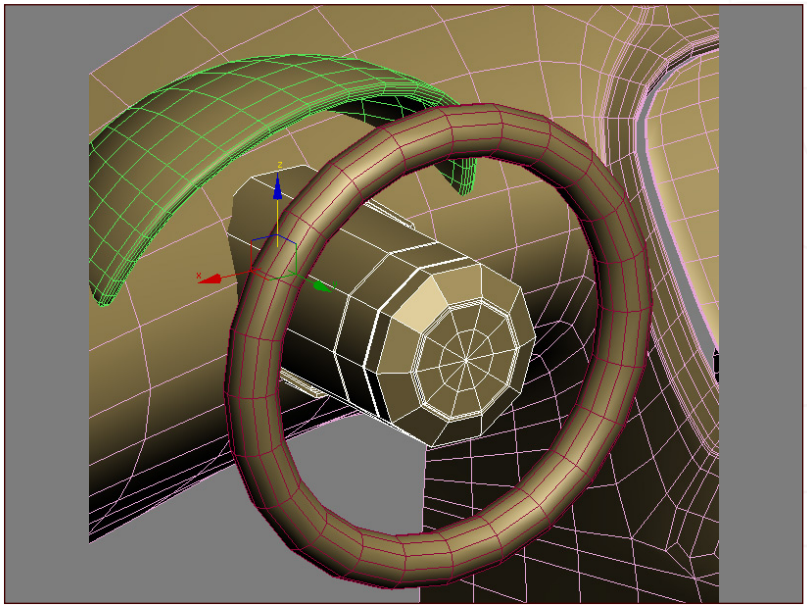
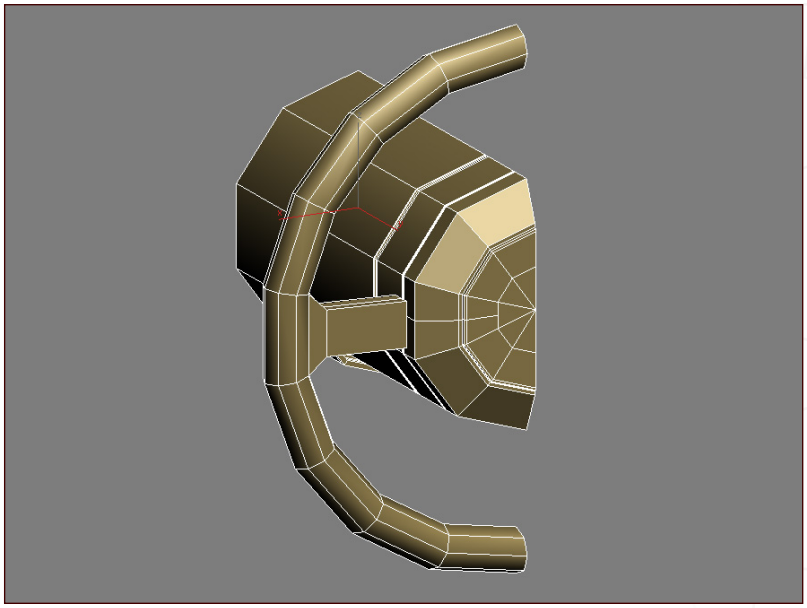


Fig 45



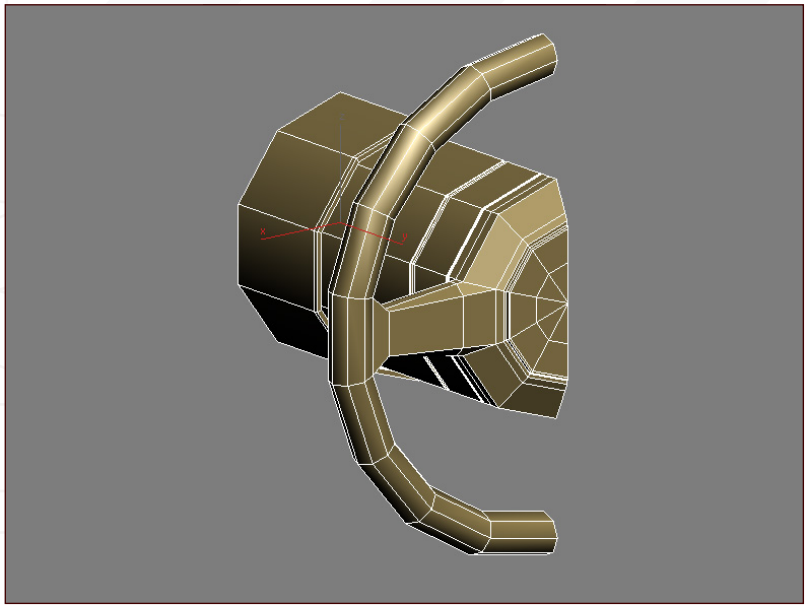


Fig 46

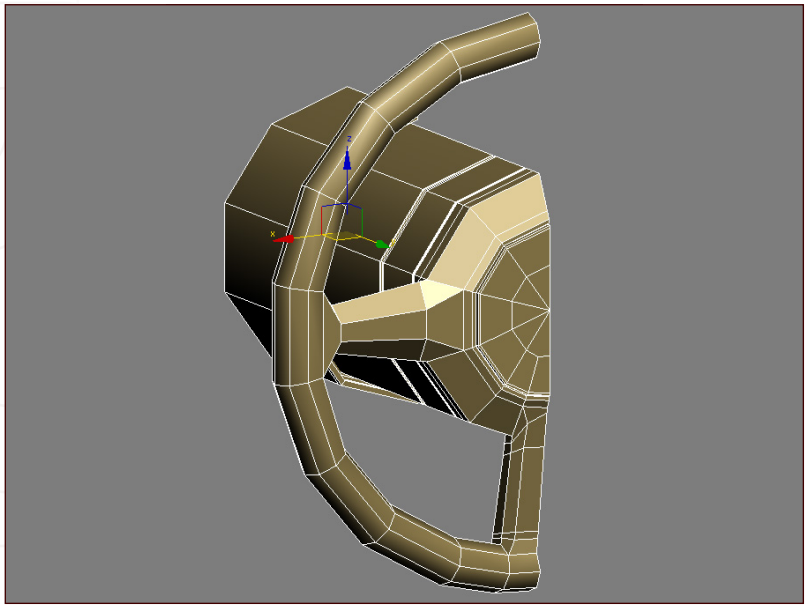


Fig 47

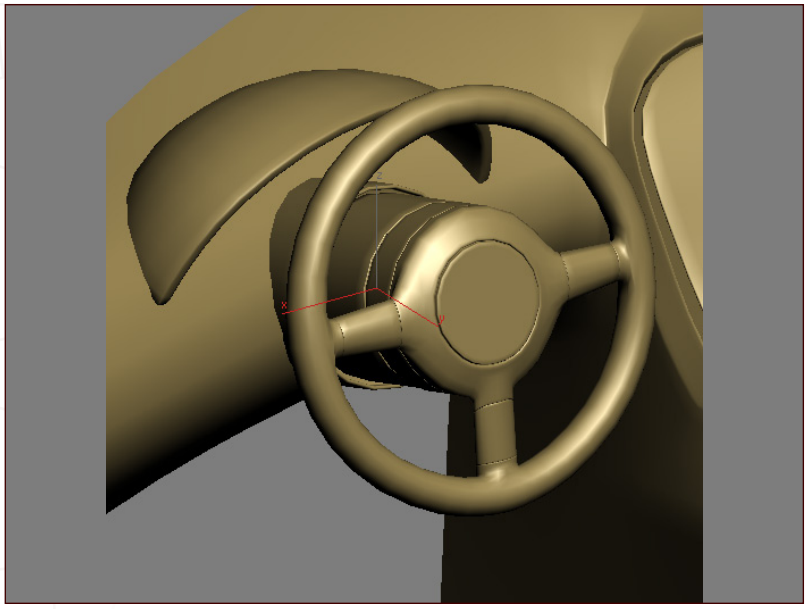


Fig 48

Finally I quickly modelled and added the gear knob (**Fig49, Fig50, Fig51, Fig52** and **Fig53**).

Fig 49

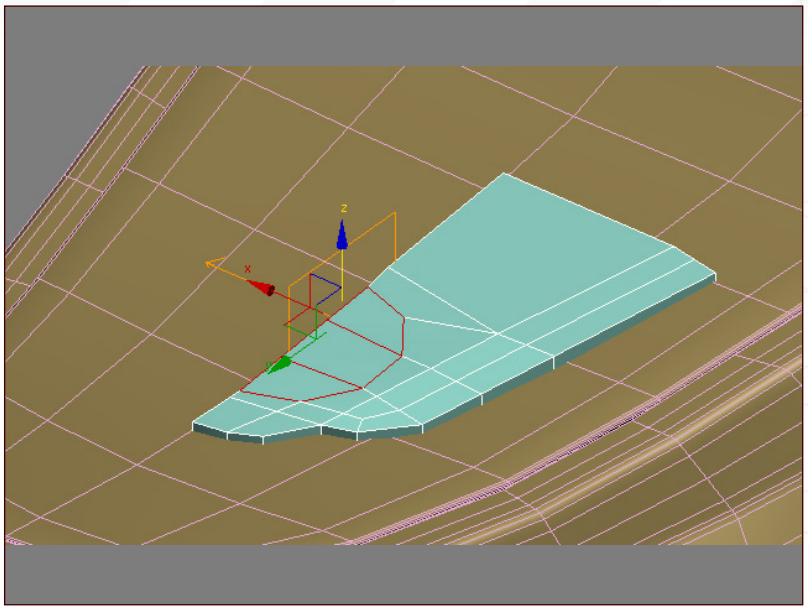


Fig 50

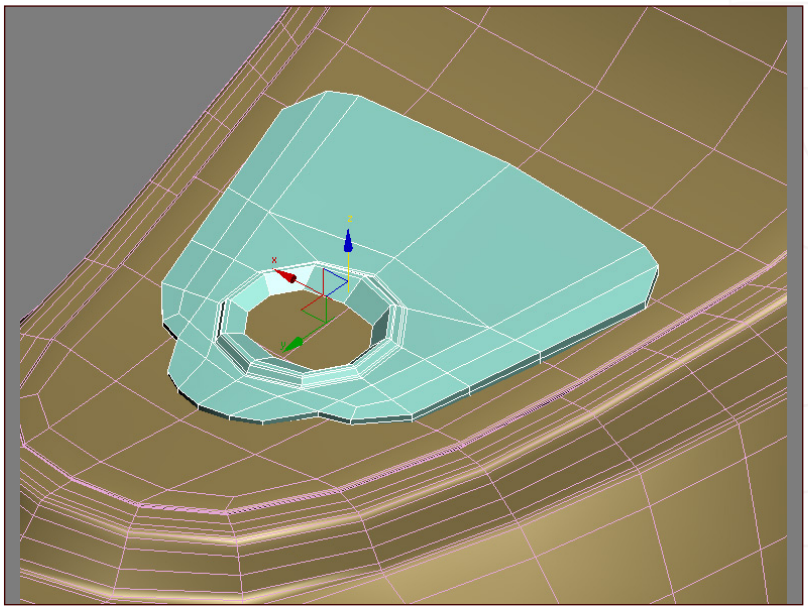
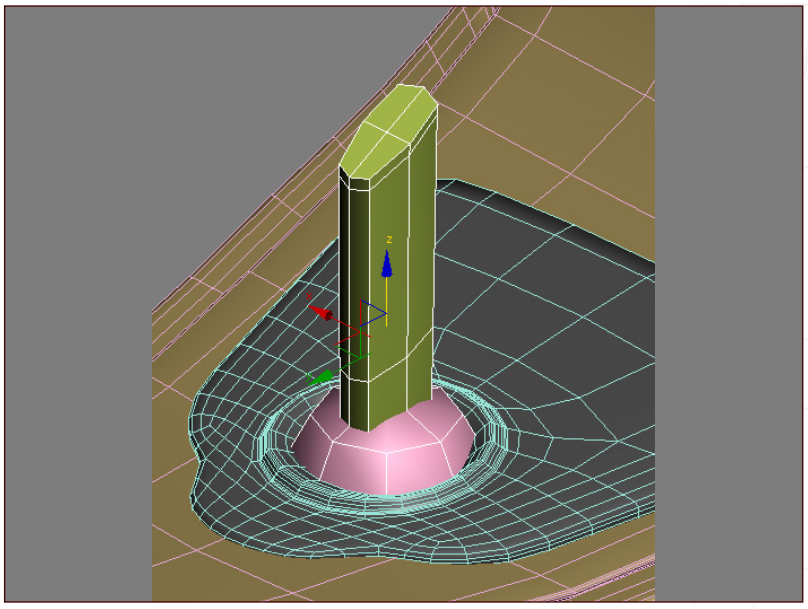


Fig 51



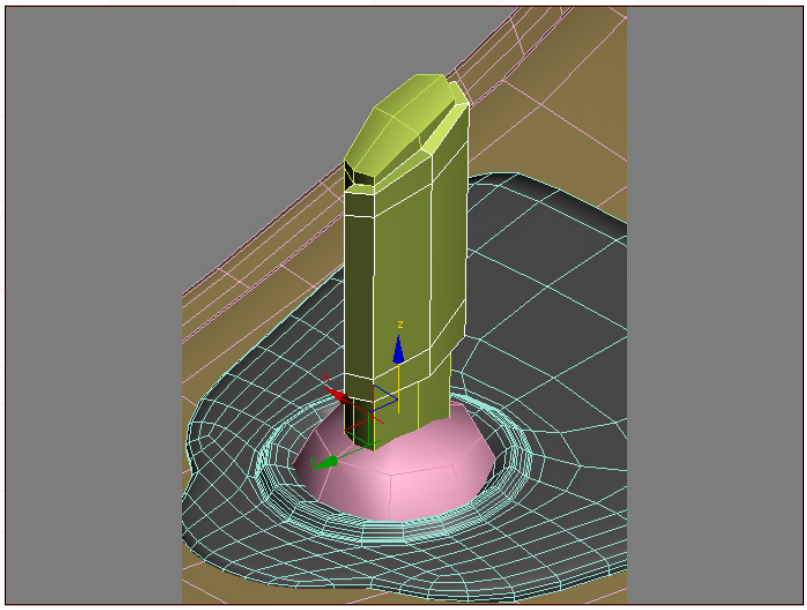


Fig 52

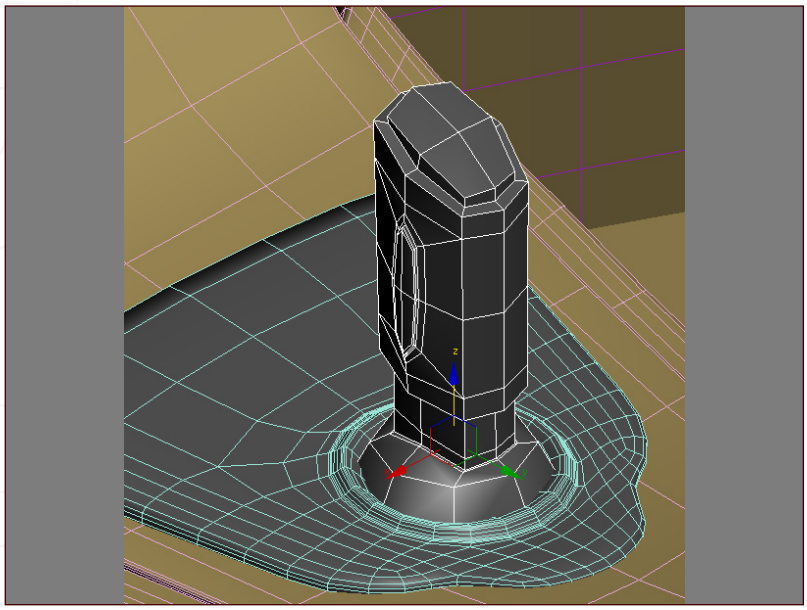


Fig 53

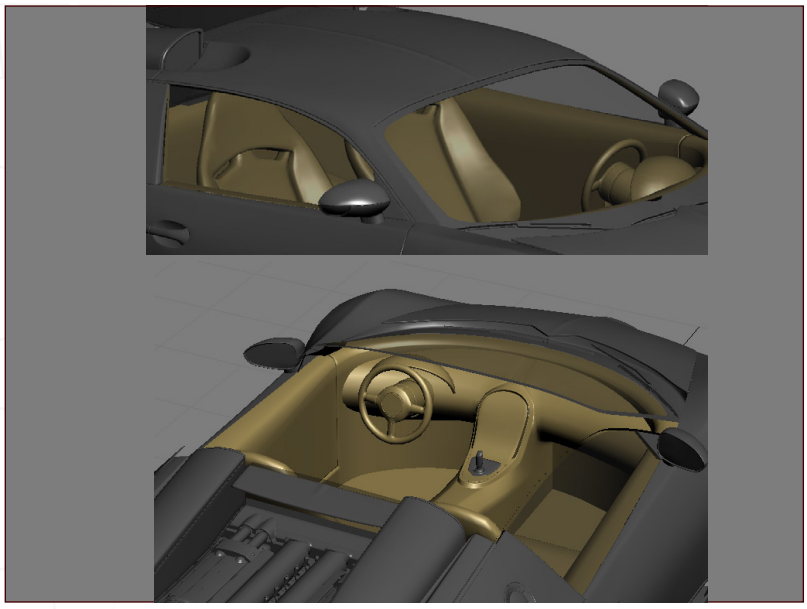


Fig 54

As you can see, at this point modelling the interior is more about general modelling skills and investing the effort and time into the process. It's usually hard to find blueprints which clearly show all the details, so it would be a good idea to quickly model all the basics of the interior and maybe to use quick primitives to represent some of its parts. You can then compare it to the reference images and adjust any of the main proportions to avoid any later modifications once you start building the mesh. It could be very hard to adjust the mesh when it's dense with polys and it's much better of course to get all the main proportions right in the beginning! (**Fig54** and **Fig55**)

In the next part we will be creating the materials. See you then!

BUGATTI VEYRON
PART 5 - INTERIOR

Tutorial by:
ALI ISMAIL
For more from this artist visit:
www.aliismail.com
Or contact them:
ali@aliismail.com

Eva Wild

Female Characters Creation

Introduction:

The 'Eva Wild Series' – Our aim in this series is to provide comprehensive lessons to produce a complete fully rigged, textured and anatomically correct female character. This series fits well into 3 DVDs with 3 separate professional 3ds Max instructors taking you through each if their specialties in very detailed step by step processes making this training suitable for artists of all levels.



Part 1 - Modelling:

- Complete step by step modelling of the Eva Wild character.
- Teaches the importance of studying human anatomy.
- Provides clear diagrams showing muscle flow and bone structure.
- 14 hours of comprehensive training.
- Suitable for artist of all levels.



Part 2 - Texturing, Mapping & Clothing:

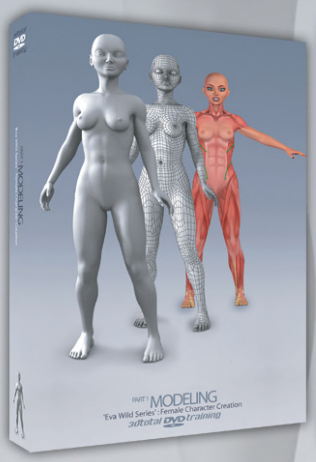
- Complete step by step texturing process of the Eva Wild character.
- Modelling and Texturing of Eva Wild garments.
- Lighting the character.
- 4 hours and 47 mins of comprehensive training.
- Suitable for artist of all levels.

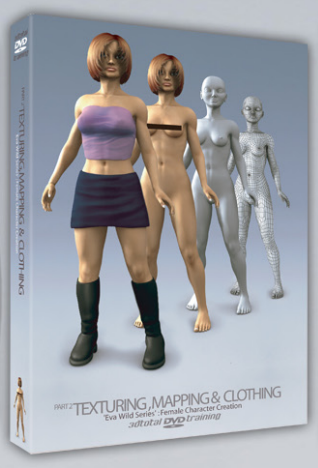


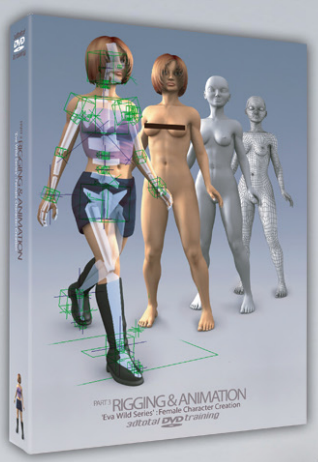
Part 3 - Rigging & Animation

- Complete step by step of setting up a fully animatable rig for the Eva Wild character.
- Creating a walk Cycle.
- Creating a simple face morph.
- 7 hours and 43 mins of comprehensive training.
- Suitable for artist of all levels.









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Bugatti Veyron
car modelling series

CINEMA 4D

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 031 March 2008
LIGHTS, RADIATOR GRILL & VENTS

Issue 032 April 2008
WHEELS, TYRES & RIMS

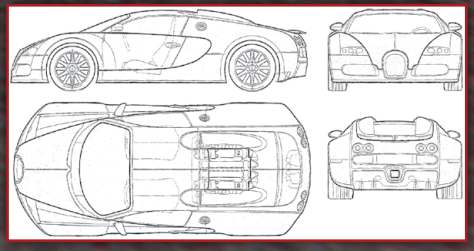
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

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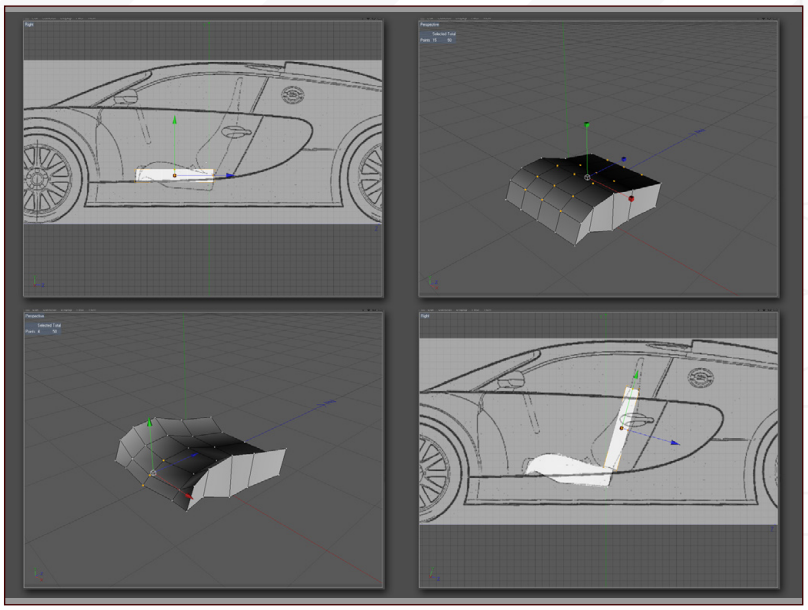
www.the-blueprints.com

BUGATTI VEYRON
PART 5: INTERIOR

In this section of the tutorial I will be covering how to model the interior of the Veyron and how to add thickness to the bodywork.

I've been unable to find any orthographic/ plans to aid in modelling the interior, therefore gathering photographic reference is key in understanding how it looks and fits together. What we do have on our exterior plans are outlines for the seat and the steering wheel, so these will be our starting point.

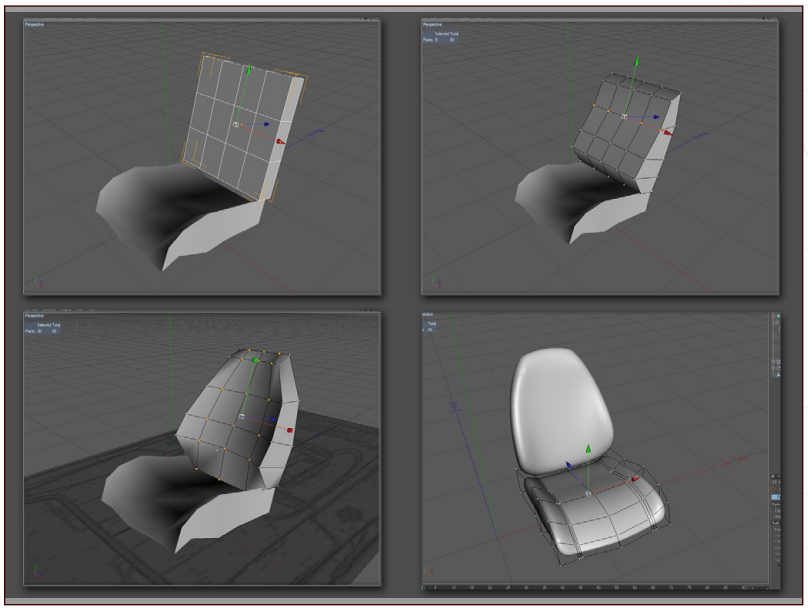
Fig 01



Begin by adding in a cube and locate it in all views at the base of the seat. Now knife loop cut the cube several times and begin to move the points in the side view. Once you're happy with the rough shape add another cube and locate it in the see back position. **(Fig.01)**

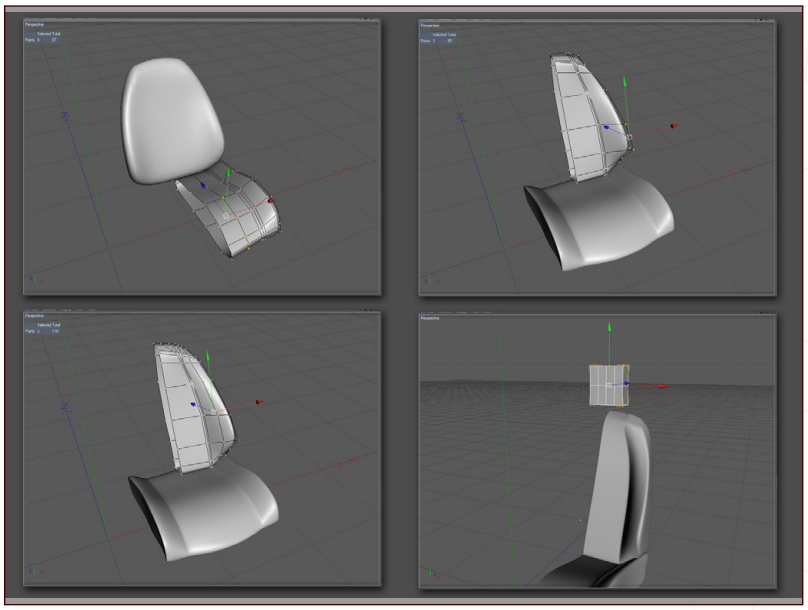
Again add loop cuts and rough out the overall shape of the seat, remembering to keep them symmetrical. **(Fig.02)**

Fig 02



I always cut symmetrical models in half when it comes to adding details as you save time only amending one side. Cut the seat in half along the Z axis and add a symmetry object at the same coordinates as the seats. Once done, add more loop cuts and define the shape of the seating. Now for the headrest, add a cube with divisions in the X axis. **(Fig.03)**

Fig 03



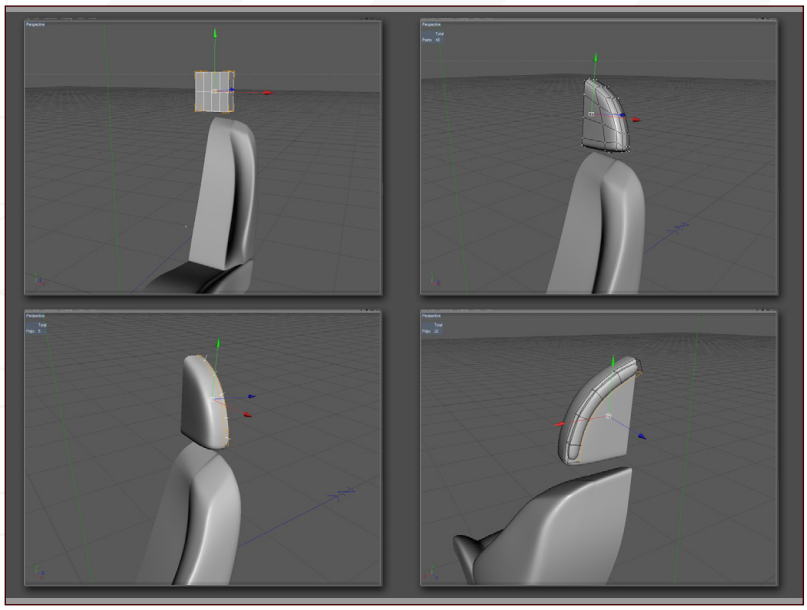


Fig 04

Halve the headrest model and begin to shape it into its cylindrical shape. Select the outer ring of polygons and perform a split function. Now use these polygons to create the headrest support. Extrude the polygons inwards and remember to delete and faces that straddle the symmetry objects Z axis. **(Fig.04)**

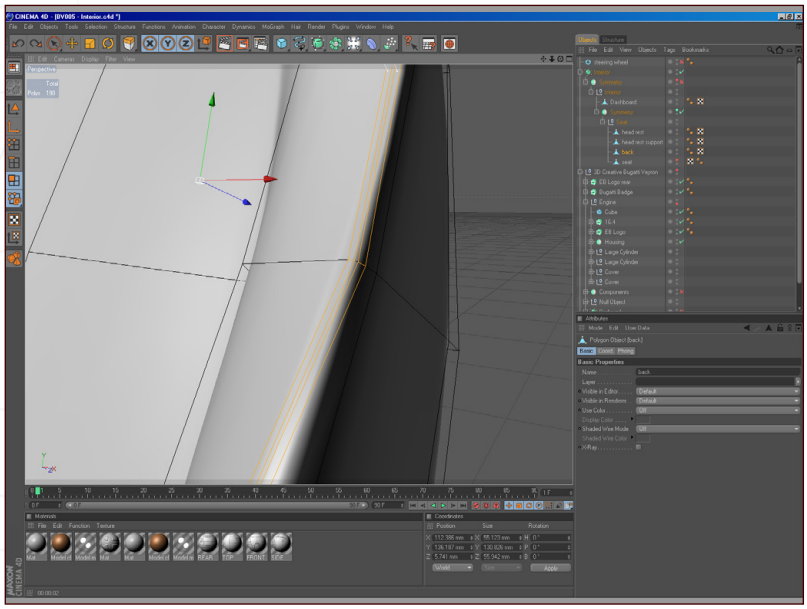


Fig 05

These types of supercars always have hand stitched leather seats which always have chunky seams. This detail can be easily added at the modelling stage and saves time trying to create a texture for the seams later. Select the polygons at the centre of the headrest and extrude them out twice in small increments. For the back of the seat you will need to loop/path select the edges shown and then bevel them to give more definition. **(Fig.05)**

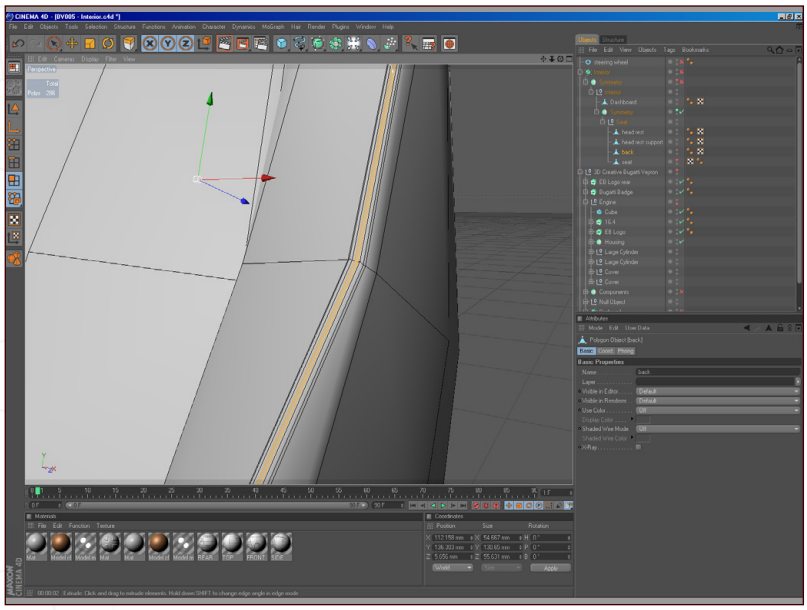
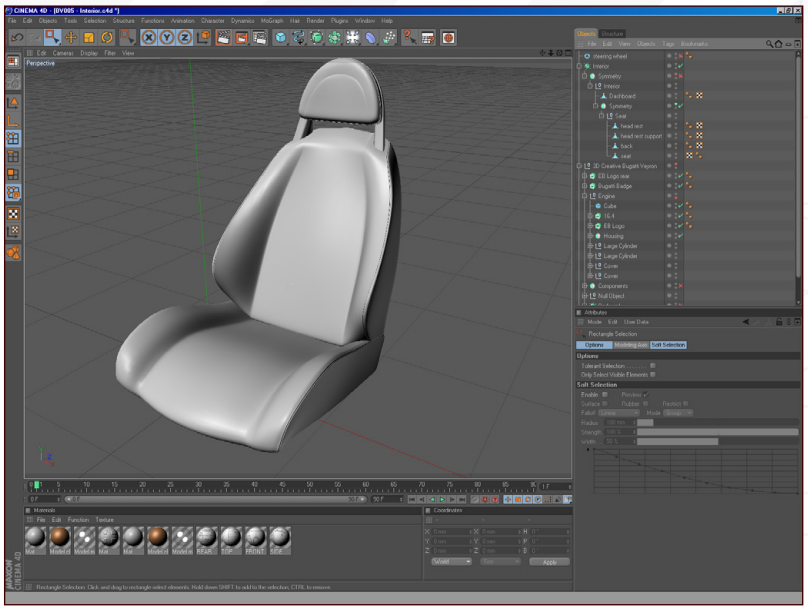


Fig 06

Now with the newly created edges selected, bevel them again to create three, close polygon loops. **(Fig.06)**

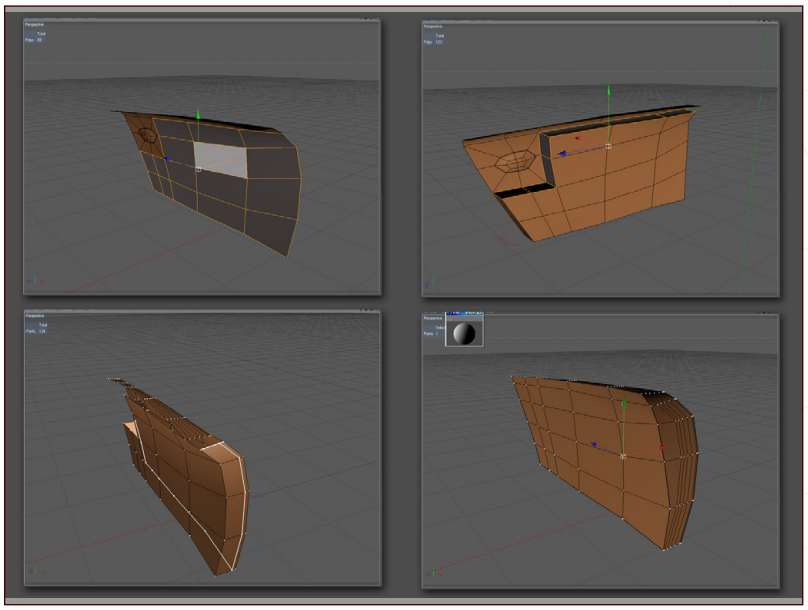
Extrude the middle polygon loop inwards once at a small increment, then extrude out the two outer loops to form the chunky seam required. **(Fig.07)**

Fig 07



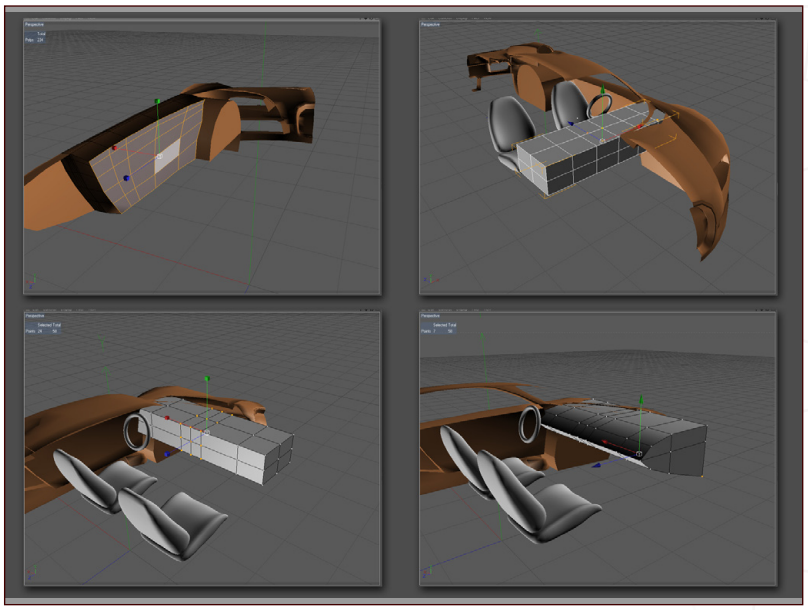
The same method for adding seams to the seat back was used on the base of the seat. **(Fig.08)**

Fig 08



We now need to add some thickness to our car door. First, select the polygons shown and extrude them inwards. The handle indent and the top row were not select do aid us in rebuilding the inner section of the door, as it does not have the same indentation inside. Delete some of the polygons created then begin to bridge the sections together. You will need to add loop cuts to the outer edges and then you will be able to weld the selected points to make the door a solid model. **(Fig.09)**

Fig 09



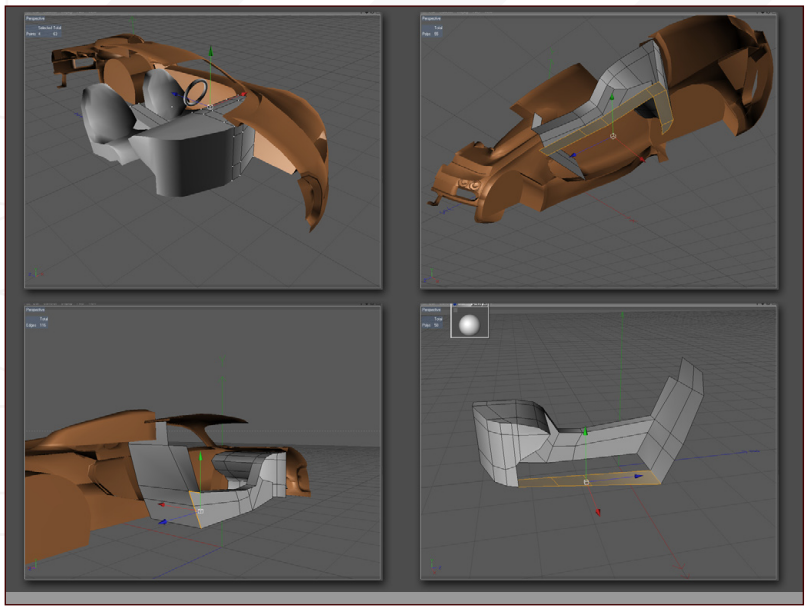


Fig 10

We roughly have the door in place, so it's time to create the dashboard. Begin by adding a cube and dividing it along the X axis. Select the centre divisions and scale them inwards roughly to where the centre console will be. Now move the points in the side view to give the dash its flowing curve. **(Fig.10)**

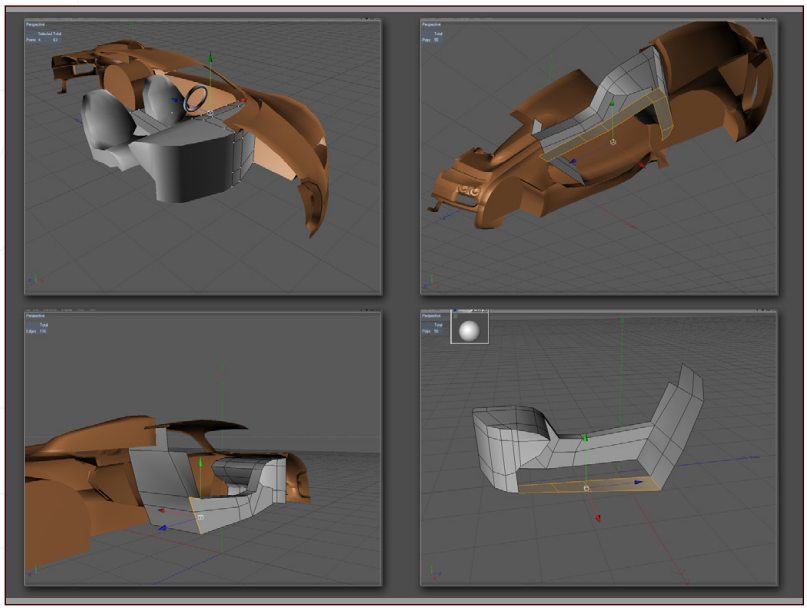


Fig 11

Loop cut to add more points and select the polygons needed to extrude down to create the foot wells. Looking at the reference images shows that the centre console flows from the peak of the dashboard curve, so select the polygons below and extrude them out.**(Fig.11)**

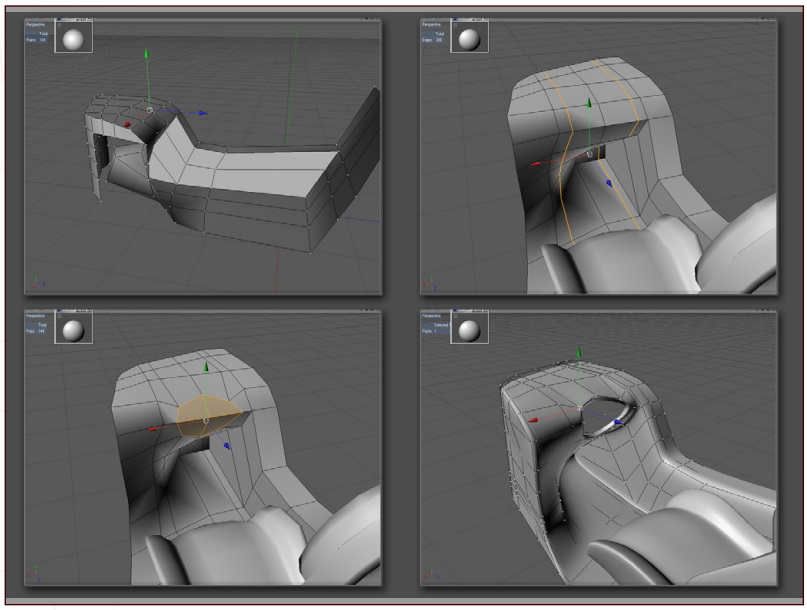
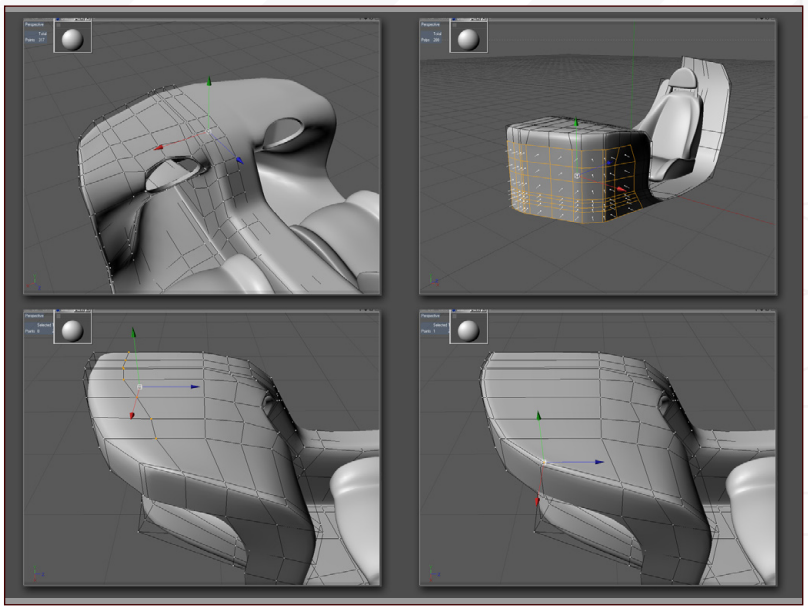


Fig 12

The dash is quickly taking shape, so it's now time to cut it in half and add some more detail. Delete any polygons not needed and the ones straddling the symmetry object. Edge extrude to create the rear of the interior and remember to leave a gap for the rear window. Bridge the edges to create the interior floor. **(Fig.12)**

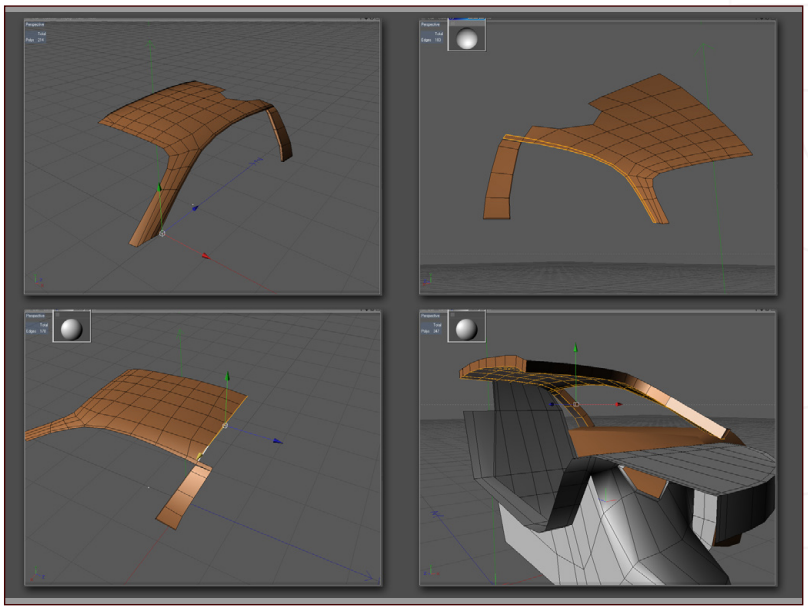
More point moving is needed to shape the curvaceous interior. Adding loop cuts helps define the curves, but I did make a mistake here. I've created a hole in the dash, which I had planned would take the adjustable steering wheel column, obviously it creates a hole on both sides which I had also planned on filling once the symmetry object was collapsed. But later on in the tutorial I realised that the hole is not really needed for the level of detail we require, so please try and carry on without creating the hole. I will fill the hole later on in this section of the tutorial. **(Fig.13)**

Fig 13



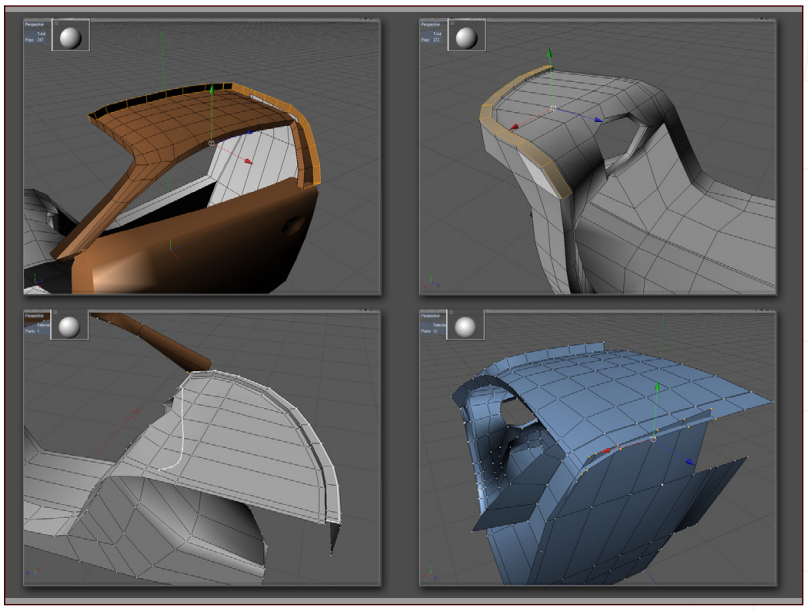
The Veyron's dash has a lip that runs along the rim of the dash which sits between the dash and the windscreen. We need to modify the dash as it will allow for a polygon loop to run the full length of the dashboard. Slide or move the points to the desired location making sure you have a uniform thickness polygon loop. You will need to weld points to obtain the loop. **(Fig.14)**

Fig 14



To create the interior roof, simply select the polygons on the roof and split the polygons. Rebuild the interior roof so that there is no indent where the engine vent was previously. Select all of the polygons and extrude inwards. **(Fig.15)**

Fig 15



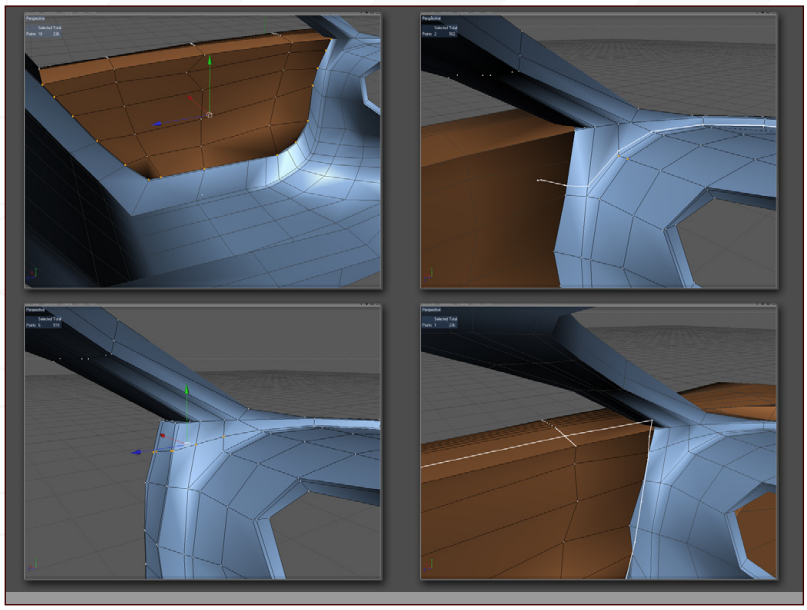


Fig 16

Delete any unwanted polygons and remember to set the point values on the zero X axis if there are any anomalies. Select the polygon loop created earlier and extrude it upwards. Add a loop cut which will help to weld the interior roof to the dash. Connect both the dash and the interior roof and begin to weld all the points to fully enclose the interior space. **(Fig.16)**

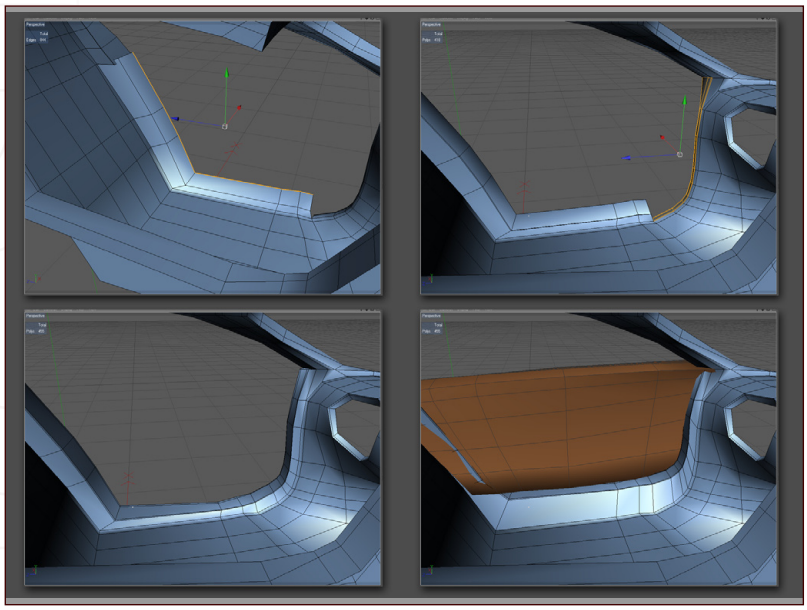


Fig 17

Loop cuts will be needed on some sections to give the right number of points to be able to weld the sections together. Now turn on the front body section and you can see that the dash isn't flush with the front of the car. Turn on 3d snapping and select points and edges in the tool attributes. Select the points on the dash that need to be shifted and they should now snap to into place on the body. **(Fig.17)**

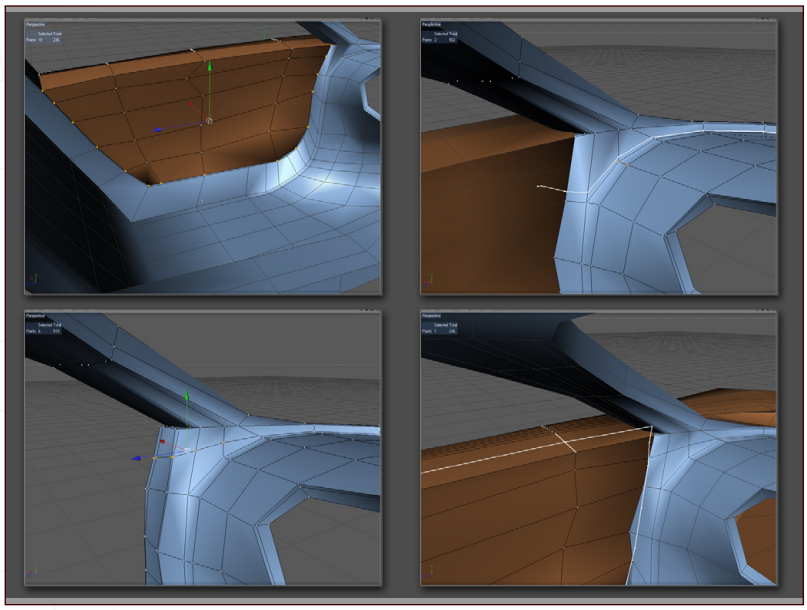
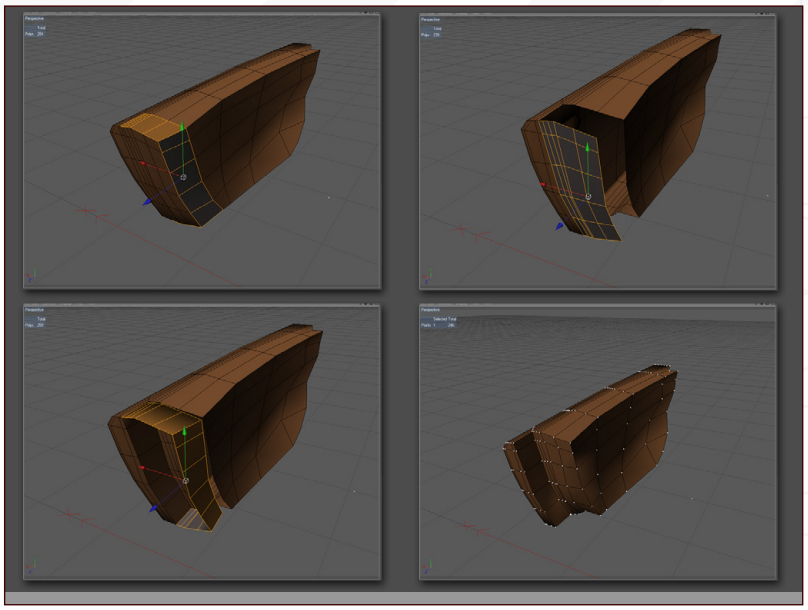


Fig 18

The interiors floor has a small step down after the threshold of the door. To create this we need to edge extrude to add more polygons and then extrude the polygons upwards. **(Fig.18)**

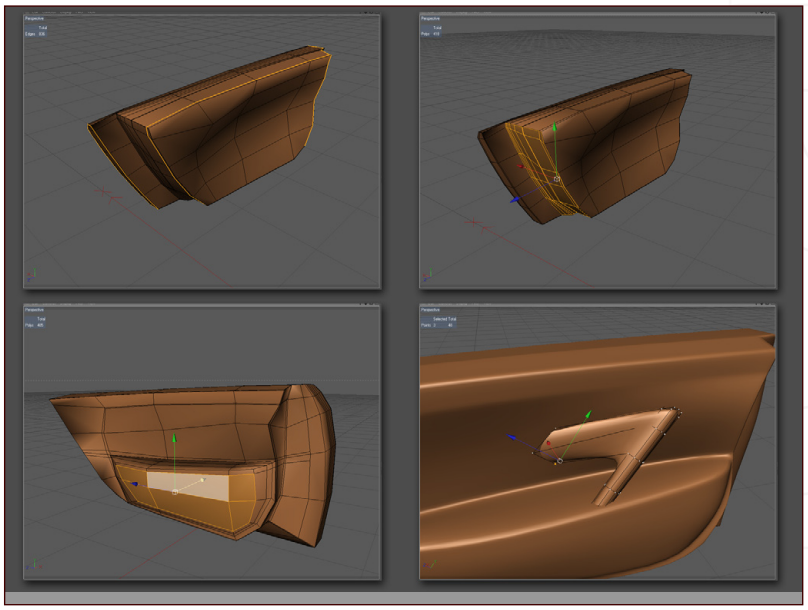
We've created the recess for the door, but now we need to use the 3d snapping again to make sure the interior and the door follow the same line and have a uniform seam/split-line. The lip that runs around the dash also flows into the door panel so time is needed to move the points to make sure that everything flows together. **(Fig.19)**

Fig 19



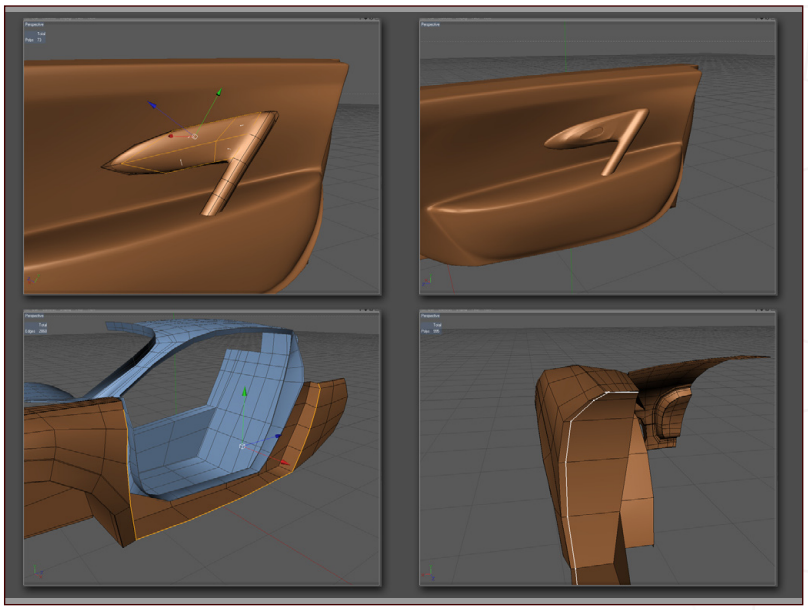
The door is not one solid shape - it also has contours on the front and back which are hidden when the doors are closed. Delete the polygons and then select the outer dangling polygons. Extrude these polygons and weld them in place on the next row of edges. **(Fig.20)**

Fig 20



Loop cuts will add definition, but make sure the outer section of the door (body side) does not have any unsightly seams and that it still flows with the rest of the cars body. The inner panels are simply selected polygons extruded inwards and I've added an eight sided cylinder for the handle. Squash the cylinder in the X axis to an oval cylinder, then extrude out the top inner section to create the return where the latch mechanism will sit. **(Fig.21)**

Fig 21



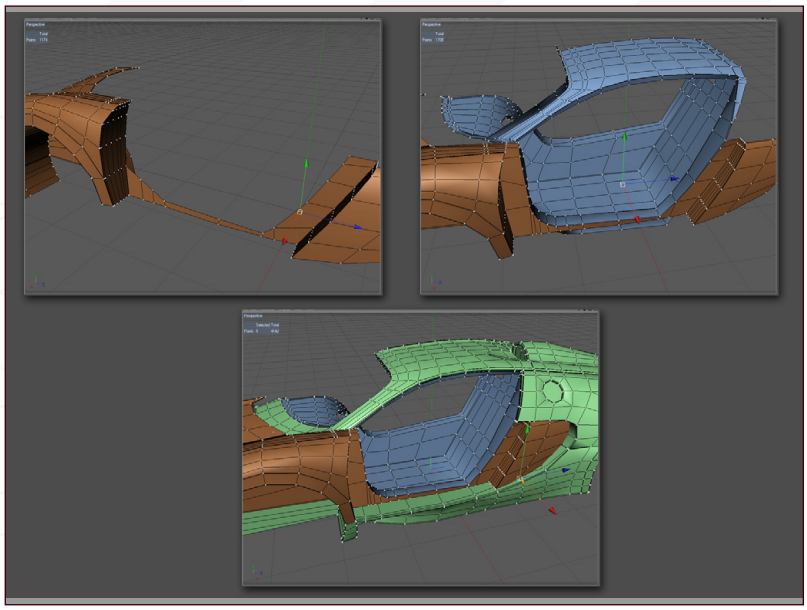


Fig 22

Extrude inner to add more polygons then extrude inwards to make the hole for the latch mechanism. The front of the body will need to butt up against the interior and I used the same 3d snapping process to achieve this. Again edges need to be extruded then cut and welded to close the holes. **(Fig.22)**

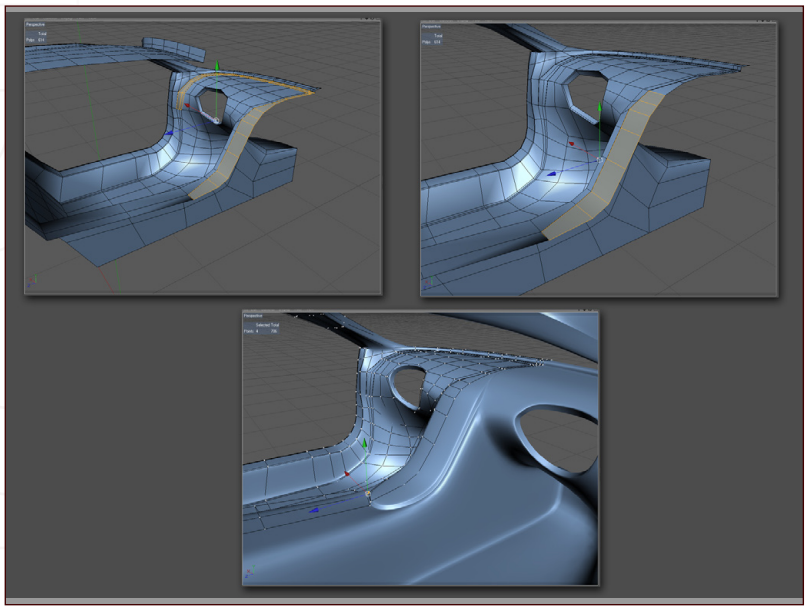


Fig 23

To align all the parts you will need to make sure the numbers of points are all uniform otherwise when the hypernurbs is turned on it can create unforeseen holes between the parts. Each part has separate colours applied to aid in differentiating each part. **(Fig.23)**

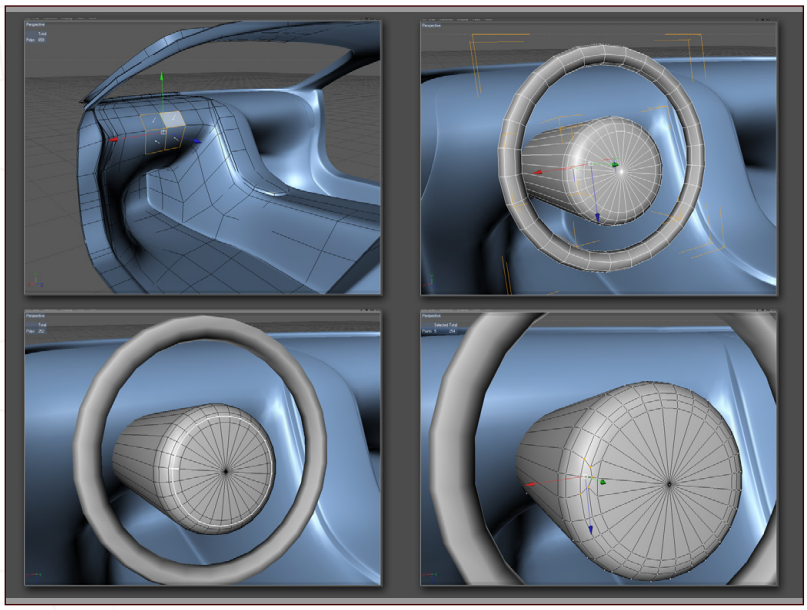
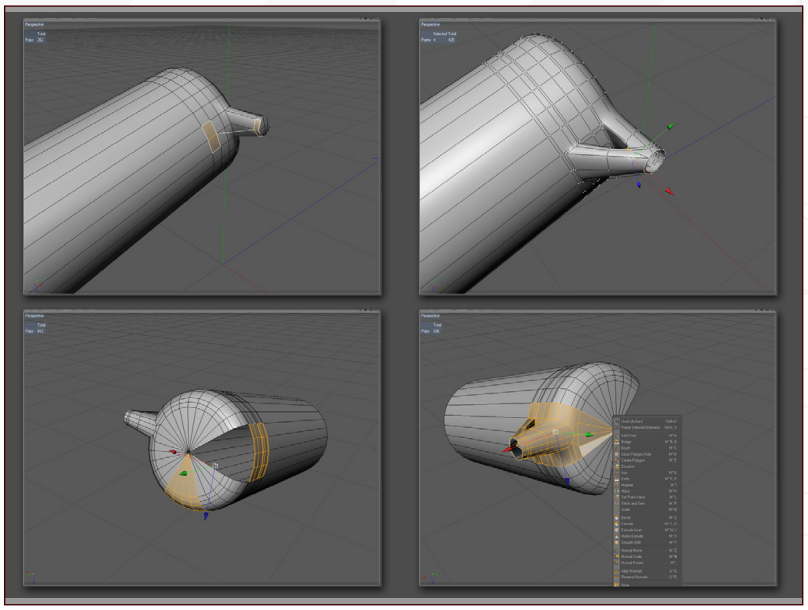


Fig 24

To create the centre console on the dash I extruded in the looped polygons in two small increments. Select the newly created polygons and pull them upwards to create the raised centre panel and add a loop cut to define the edge. **(Fig.24)**

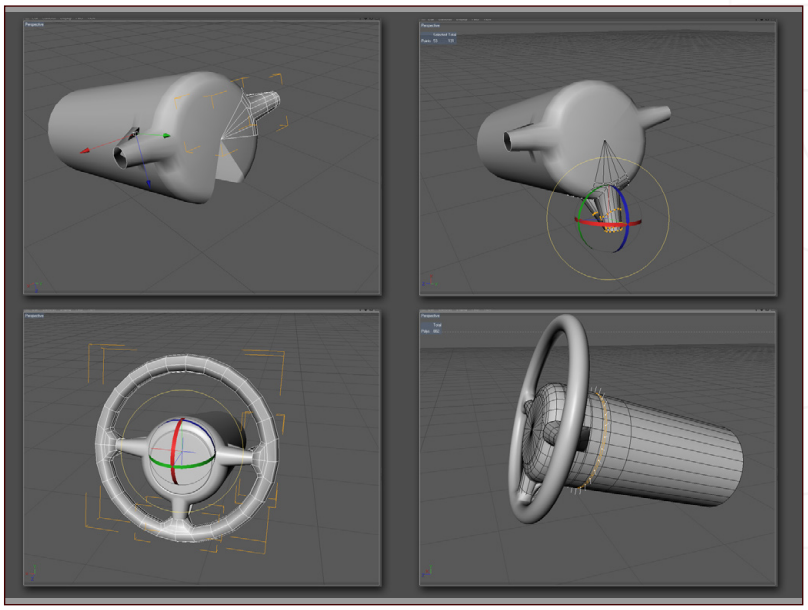
I've now closed the obsolete dashboard steering wheel hole by simply deleting polygons and bridging the hole. For the steering wheel I've used a (28 segment, 8 radius segment) torus. For the steering column I've used a 28 segment cylinder with a 3 segment radius. The column isn't centred with the wheel so the connecting arms are offset in the Y direction. I begin by sliding the points in need to give me a shape to extrude the arms. **(Fig.25)**

Fig 25



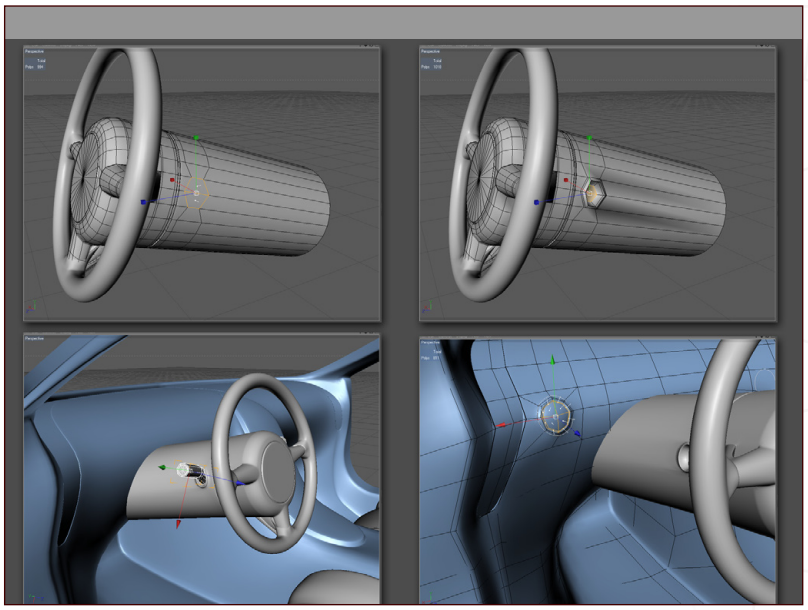
Extrude out the polygons and use a spline circle to help shape the rounded end. I've edge looped some cuts along the column to be able to polygon bridge the arm back into the column. I've only created the arm on one side of the column, so now we need to delete the corresponding polygons in the two other arm areas. Select the arm and some surrounding polygons and perform a split operation. **(Fig.26)**

Fig 26



Now in the coordinates manager with the new object selected add a minus symbol in the Y size and the arm should mirror over to the right. I copy the object and then rotate it down as close as possible to filling the space at the bottom. The bottom arm needs to be aligned so select the points and align it in the top view. Once your happy with the shape, select all the column objects and connect them together and optimise the points to make sure all the parts are connected. The steering wheel was simply polygon extruded a few times in the three adjacent areas and then shaped to overlap the column arms. Loop cut the column again to create an area to recess for the gap that allows the wheel to pivot. **(Fig.27)**

Fig 27



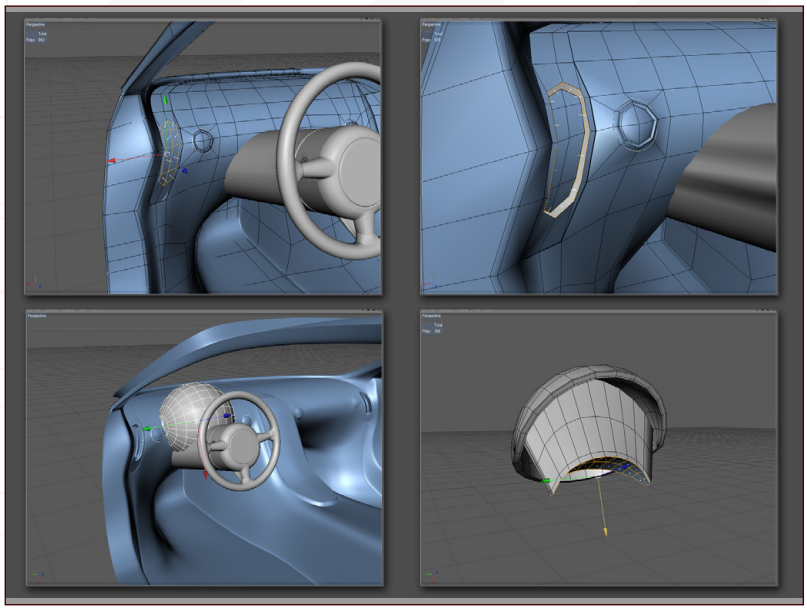


Fig 28

The indicators are recessed into the column so more loop cuts are needed to create the hole. I extrude out and inner to give the raised rim. Then extrude inwards several times while scaling to create the hole. They are simplified cylinders extruded and shaped with a kink in the ovalised arm which locates in the recess. I've done the usual minus symbol trick to give me a mirrored version for the opposite side. The dials on the dashboard were created by extrude inner then in and out several times to form the shape. Some time was taken to make sure the starting polygons flow on the curve and that they were shaped using a spline cylinder to achieve the round dial. **(Fig.28)**

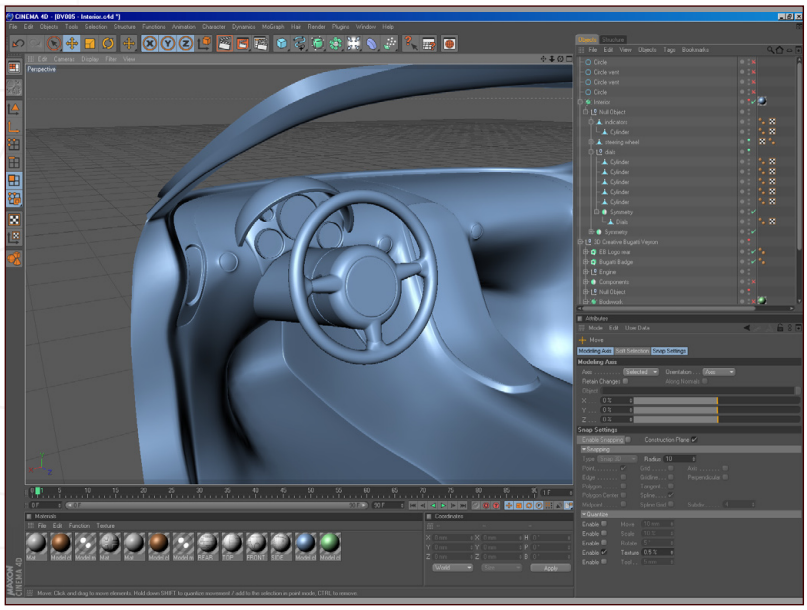


Fig 29

The interior air vent was created in a similar fashion to the dials, by extruding inner and shaping the polygons before extruding inwards. I used a sphere for the housing for the speedometer and dials, making sure the poles of the sphere were horizontal. Delete the inner polygons and the unwanted ones to create a rough shape. Then select all of the polygons and extrude inwards making sure to add enough segments to define the edges. Extrude the inner polygons to create the platform for the dials to sit on and align the end around the steering column. **(Fig.29)**

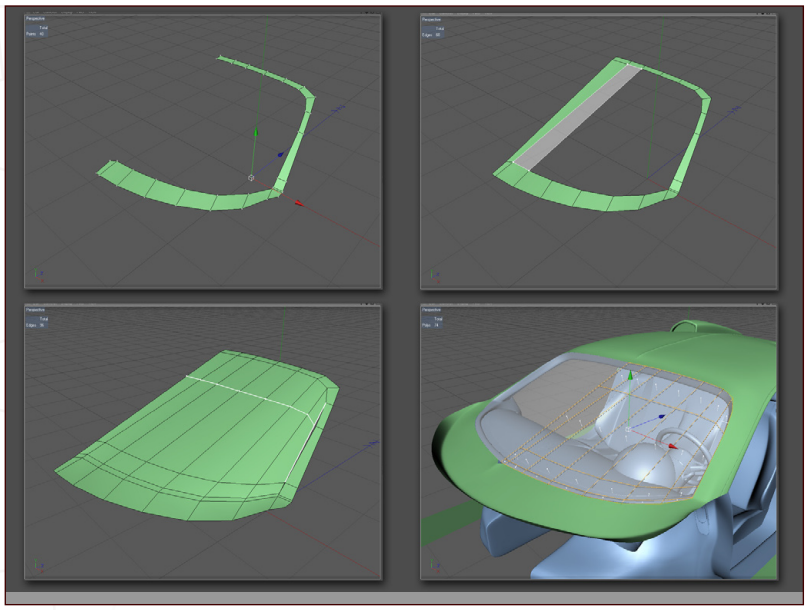
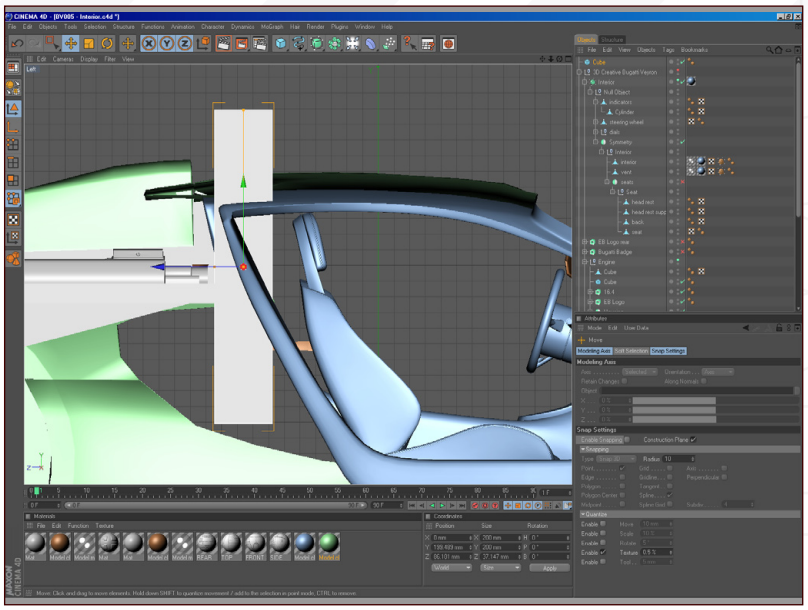


Fig 30

I've used some simplified cylinders and extruded the tops inner and inwards to create the dials, then arranged them on the surface making sure they point at where the drivers head will be located. **(Fig.30)**

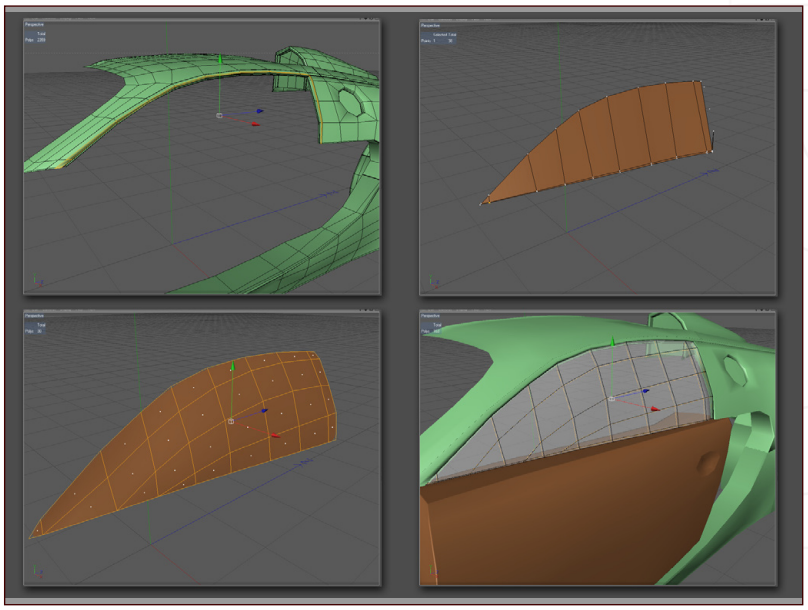
Now we need to add some windows, first select the polygons around the windscreen on the rear body object and split them. Now connect the edges from top to bottom then loop cut to add enough points to weld the edges together. To add thickness simply select all the polygons and extrude with the caps option selected. To make sure there are no gaps edge loop select the outer edges and fully weight them ('full stop' and drag right or left) and the windscreen is complete. **(Fig.31)**

Fig 31



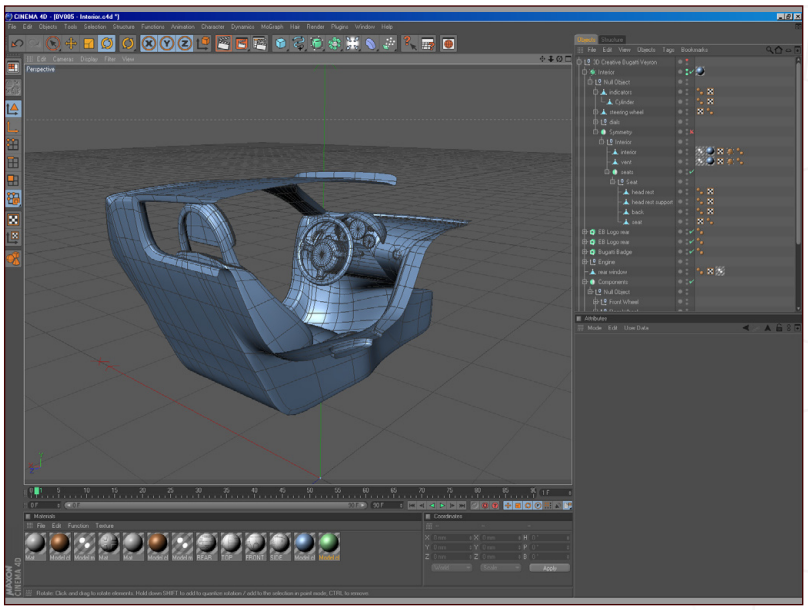
The rear window is very simple, just add a cube to the required thickness and position it in the gap we left earlier. **(Fig.32)**

Fig 32



The door window will take a little more work so select the polygons around the window on the rear body object and split them. Start creating polygons and bridging in between, remember to follow all of the curves. Once your happy perform the same extrude and weighting techniques as used on the windscreen. **(Fig.33)**

Fig 33



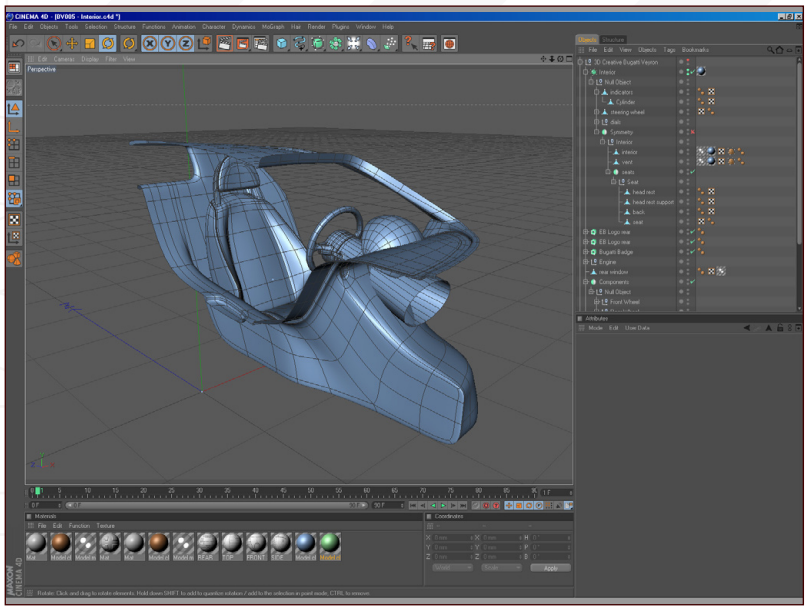


Fig 34

The car is now complete in terms of the modelling stage and the interior is easily the most difficult section of the tutorial series. I've made some small re-adjustments to iron out any holes or problems when everything is turned on which is important as you do not want any gaps appearing. Some low resolution test renders can help you to see if there are any gaps in the bodywork/doors/interior here are some final shots of the interior. **(Fig.33 & 34)**

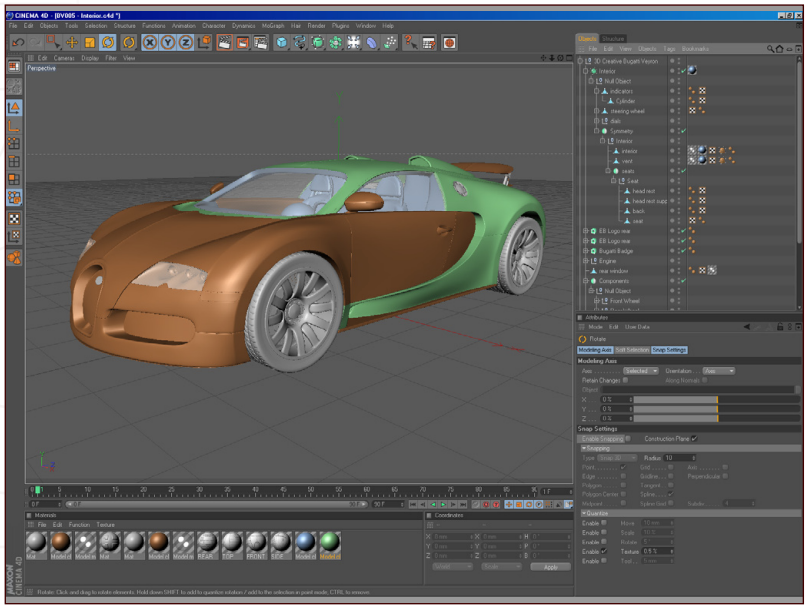


Fig 35

Final model. **(Fig.35)**

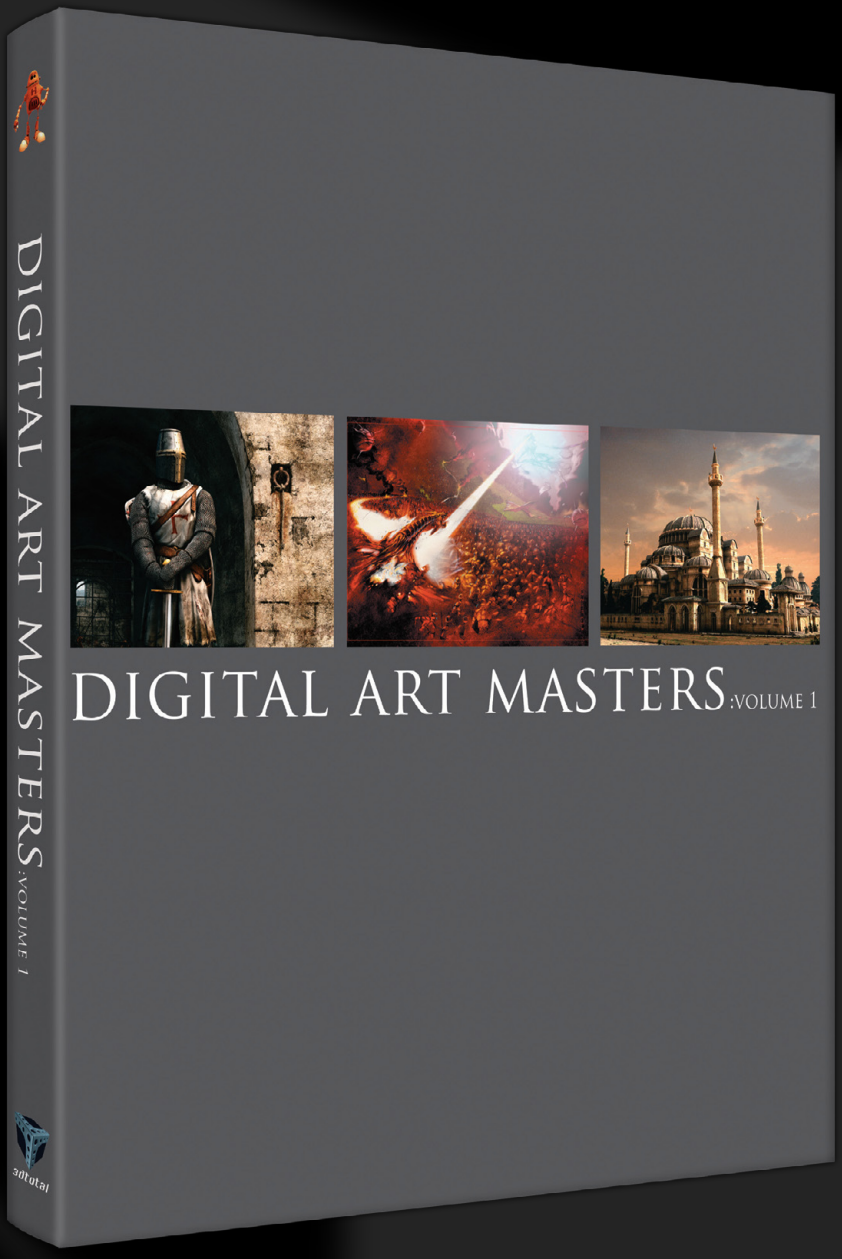
That's completed the interior of the car and in the next issue we'll be covering how to add bling with textures and materials.

BUGATTI VEYRON
PART 5: INTERIOR

Tutorial by:
EMLYN DAVIES
For more from this artist visit:
www.cr8ivity.co.uk
Or contact them:
design_em@mac.com

Digital Art Masters

: volume 1



Introduction:

The 'Digital Art Masters: volume 1' book, is a collection of work from artists which have featured in the gallery of 3DTotal. Spread over 192 pages, the book features some of the finest digital 2D and 3D artwork that you can see today, from artist as Natascha Roeoesli, Philip Straub, Rob Chang, Jesse Sandifer, PiSONG, Meny Hilsenrad and Ryan Lim and many more. More than just any other gallery book, each artist has written a breakdown overview, each with supporting imagery of how they made there piece of work.



The first book in the "Digital Art Masters" series, contains work by the following artists:

André Holzmeister, Andrey Yamkovoy, Balazs Kiss, Cetin Tuker, Daniele Montella, d'Ettorre Olivier-Thomas, Donald Phan, Drazenka Kimpel, Egil Paulsen, Eric Wilkerson, Fabricio Micheli, Francisco Ferriz, Fred Bastide, Fredrik Alfredsson, Haure Sebastien, Jesse Sandifer, Jorge Adorni, Juan J. González, Juliano Castro, Khalid Abdulla Al-Muharraqi, Landis Fields, Laurent Gaumer, Laurent Ménabé, Li Suli, Linda Tso, Marcel Baumann, Marco Siegel, Mariska Vos, Meny, Hilsenrad, Natascha Roeoesli, Nicolas Richelet, Niels Sinke, Norbert Fuchs, Olli Sorjonen, Omar Sarmiento, Patrick Beaulieu, Philip Straub, PiSONG, Richard Tilbury, Rob Adams, Robert Chang, Romain Côte, Ronnie Olsthoorn, Rudolf Herczog, Ryan Lim, Siku and Thierry Canon

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Bugatti Veyron
car modelling series

lightwave

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 031 March 2008
LIGHTS, RADIATOR GRILL & VENTS

Issue 032 April 2008
WHEELS, TYRES & RIMS

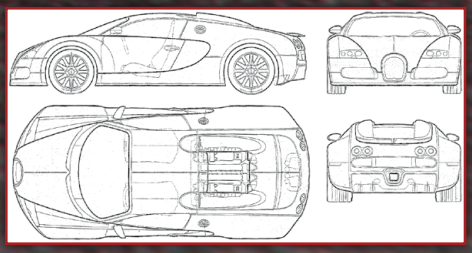
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

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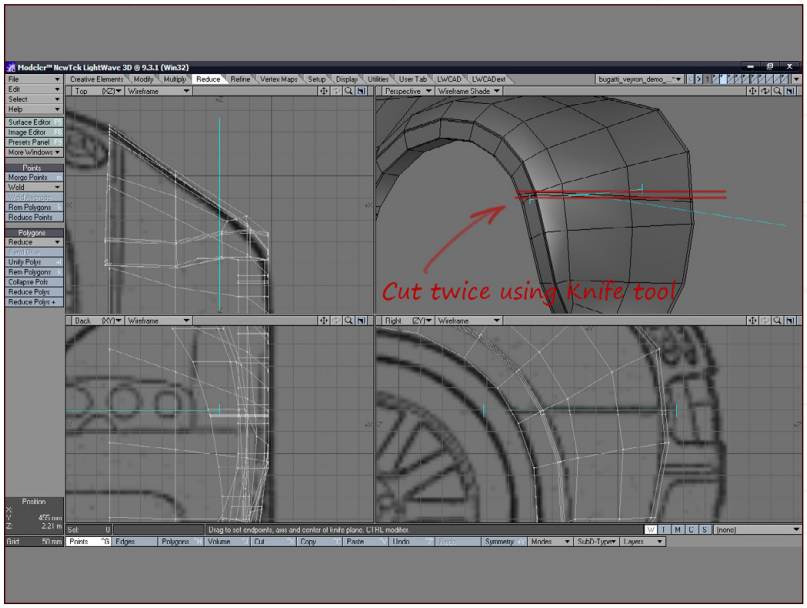
BUGATTI VEYRON

PART 3 - LIGHTS, RADIATOR GRILL & VENTS

Hello and welcome to the third installment of Bugatti Veyron tutorial series. In this part we are going to add necessary details as well as front and rear lights to the models.

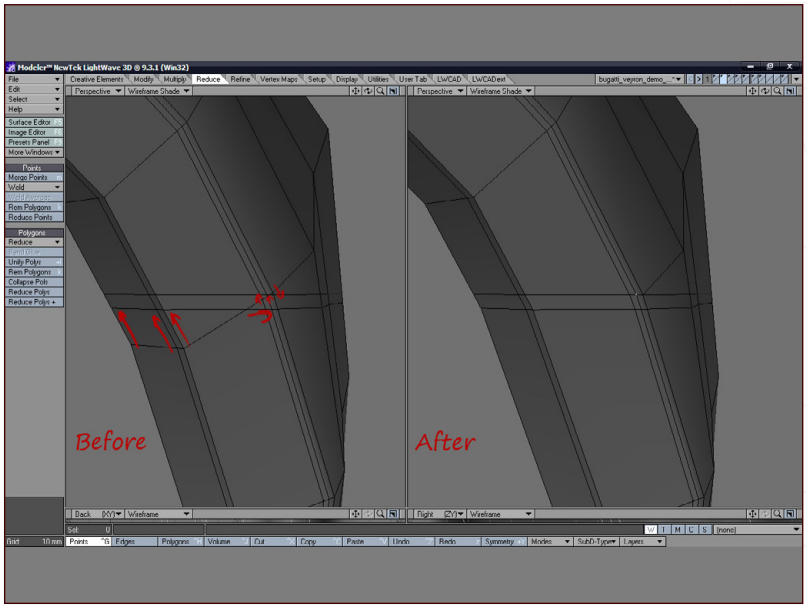
First, we need to do some adjustments to the car body. On the rear side we need to make two cuts where two body parts meet. So hit Shift + K to activate the Knife tool and, while holding the Shift key to get straight lines, make two cuts, as shown in the image. When you make the first cut, right-click just above (or below) to make another one (**Fig.01**).

Fig 01



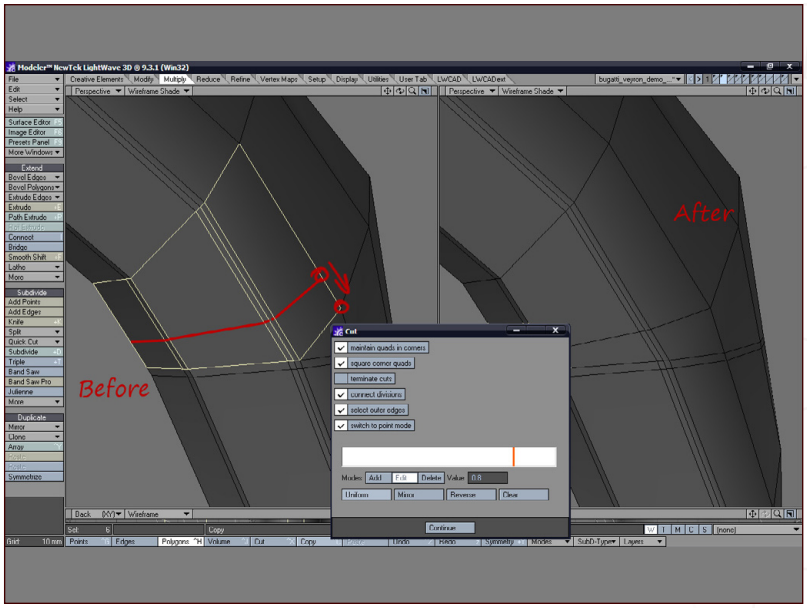
Weld points as shown in the image. The left side shows before while the right side shows after welding. Arrows show which point welds with which. This way we get rid of unnecessary polygons. Press “W” for the polygon statistics and to get rid of all the one- and two-point polygons (**Fig.02**).

Fig 02



Select the polygons marked in the image from left to right and activate Multiply > Split > Cut. Enter 0.8 for the Cut Value and hit OK. Weld the points marked in the image and merge (Shift + Z) two remaining triangles. This way we end up again with all quads, after Knife-cutting polygons (**Fig.03**).

Fig 03



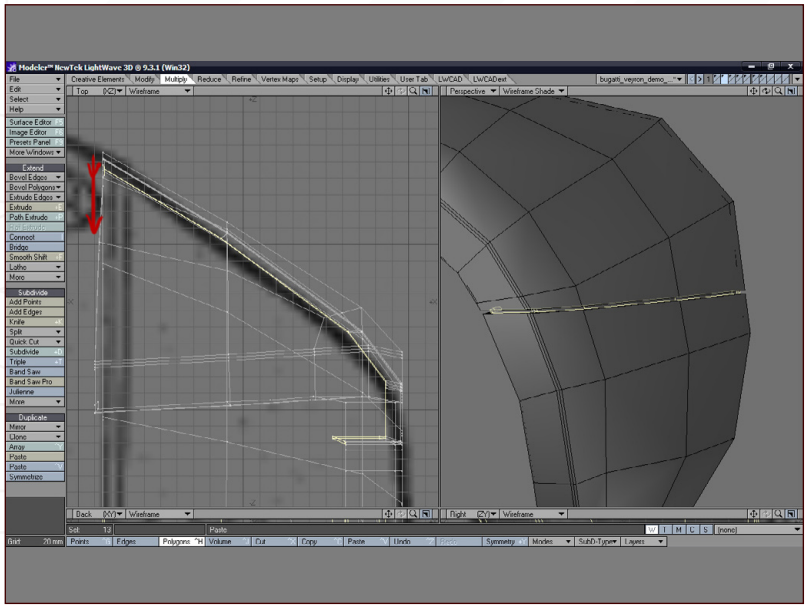


Fig 04

Select the polygon band where two body parts meet. Press “E” to extend polygons and scale polygons down slightly. Hit “E” again and scale them down again, this time a little more (**Fig.04**).

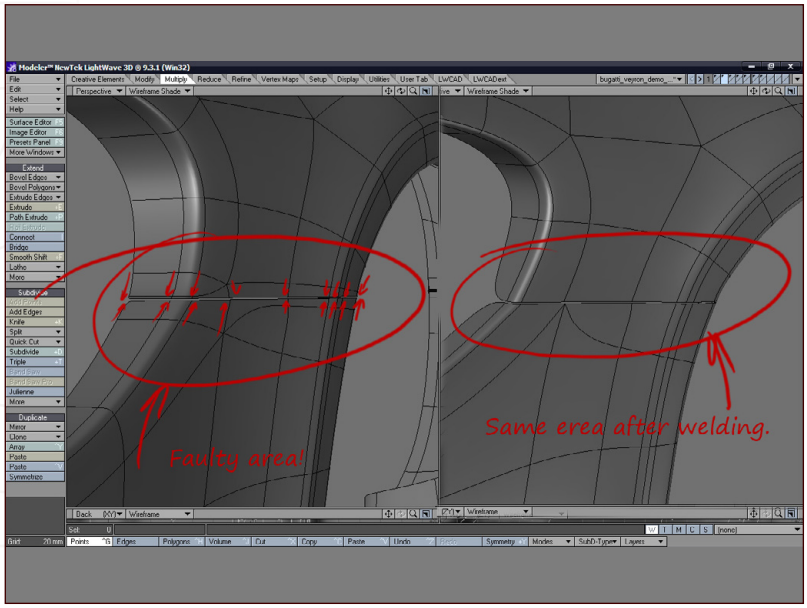


Fig 05

Now we need to fix the cut that is on the other side of the wheel gap. Weld the point as it’s marked in image. Press “W” to pop up the polygon statistics and delete all the one- and two-point polygons (**Fig.05**).

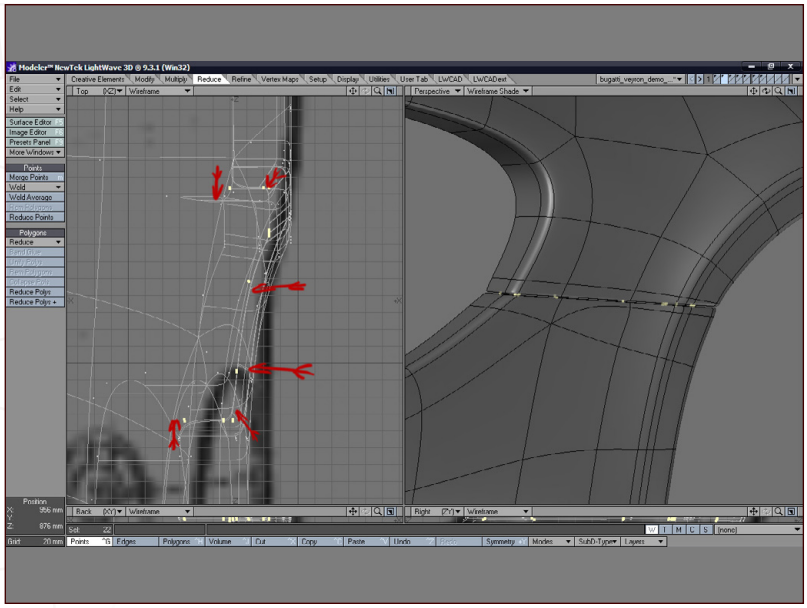
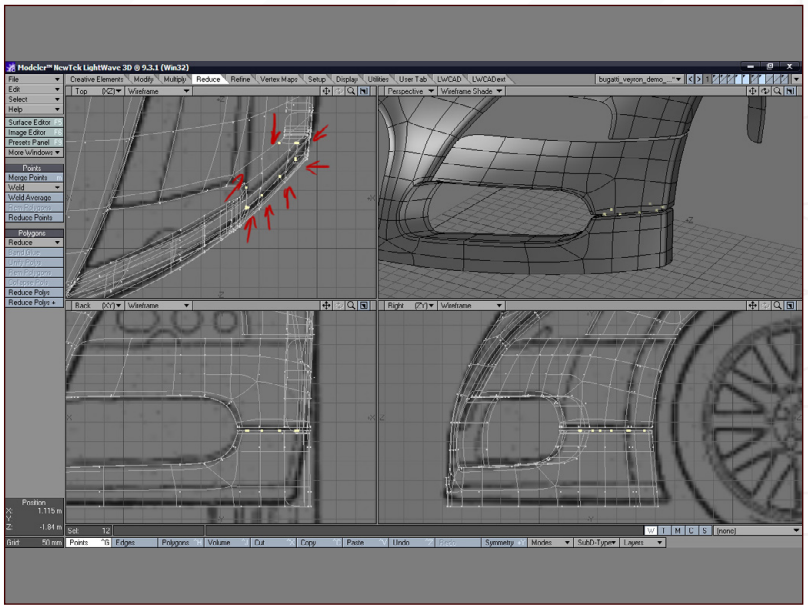


Fig 06

Select edge points and extend and scale them twice, just like we did in Fig04 with the polygons. As you can see, the Extender Plus tool (“E”) works the same with points and polygons (**Fig.06**).

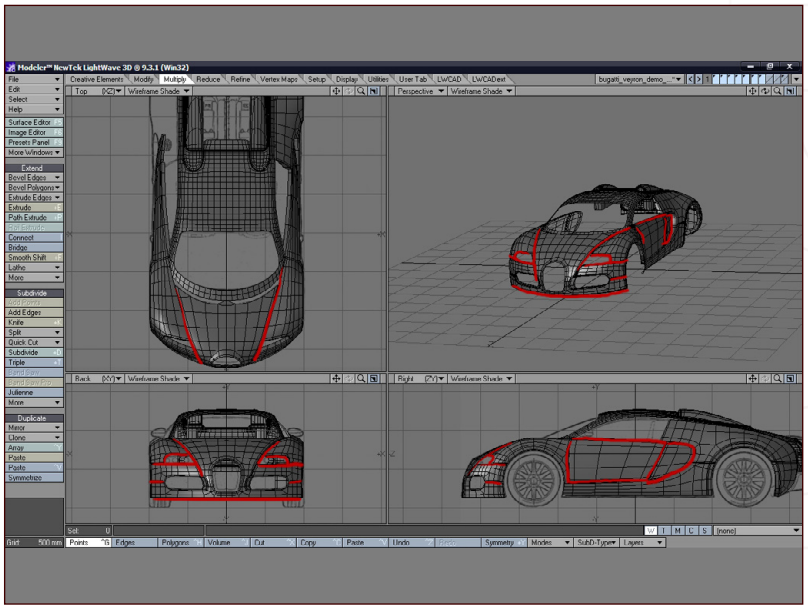
Like in the previous step, select edge points, extend them and then scale them down twice (**Fig.07**).

Fig 07



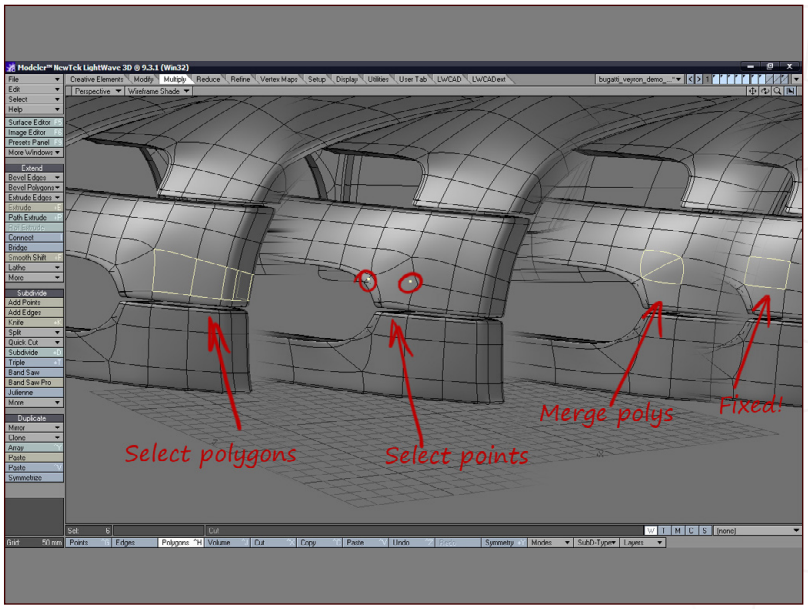
Go around and “fix” all the joining parts of the car’s body (**Fig.08**).

Fig 08



Select the polygon band, like in the image. Hit “L” to connect polygons – this will effectively split them in two. Now, select the points and again hit “L” to connect the points. Merge the two triangles and the original triangle is fixed! (**Fig.09**)

Fig 09



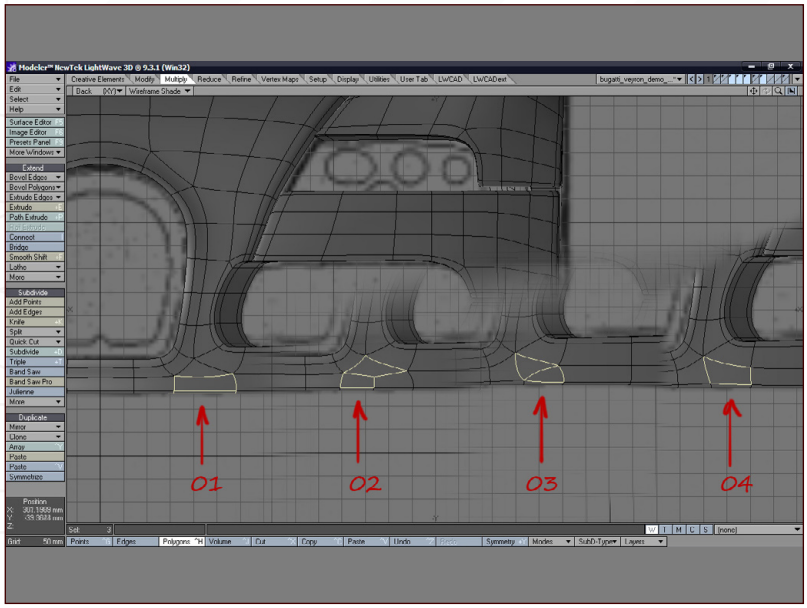


Fig 10

Step 01 Select the bottom polygon band and hit “L” to split. Step 02 Select two polygons. Step 03 Spinquad these two polys (Ctrl + K). Step 04 The fixed geometry! (**Fig.10**)

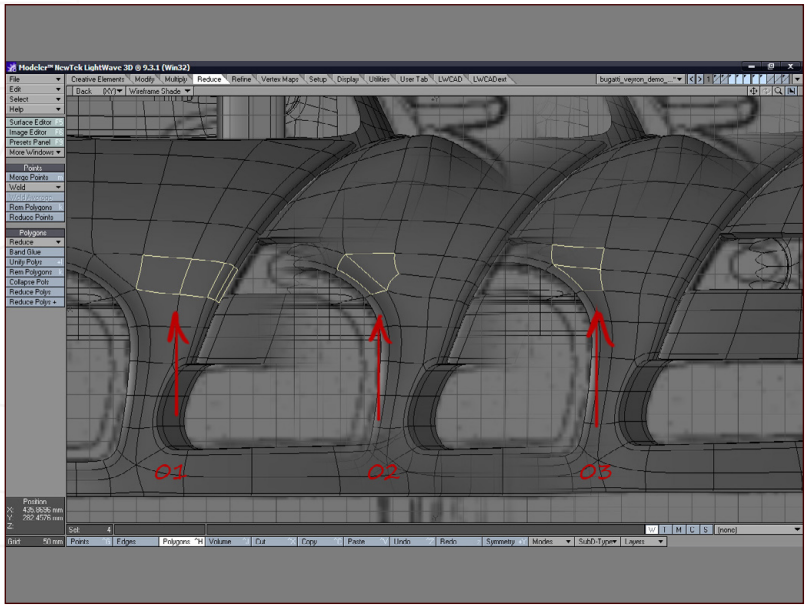


Fig 11

Again, select the polygon band and press “L” to split. Spinquad the polygons once, as shown in Step 02. Fixed! (**Fig.11**)

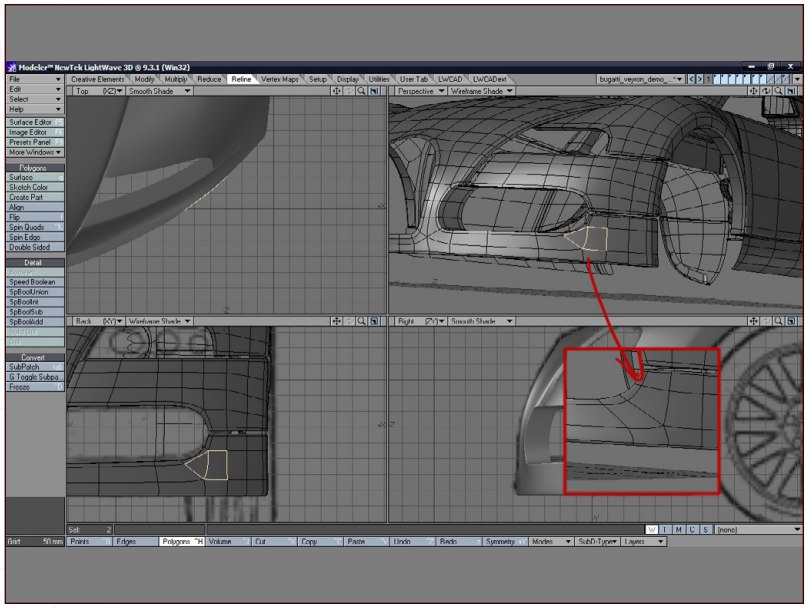
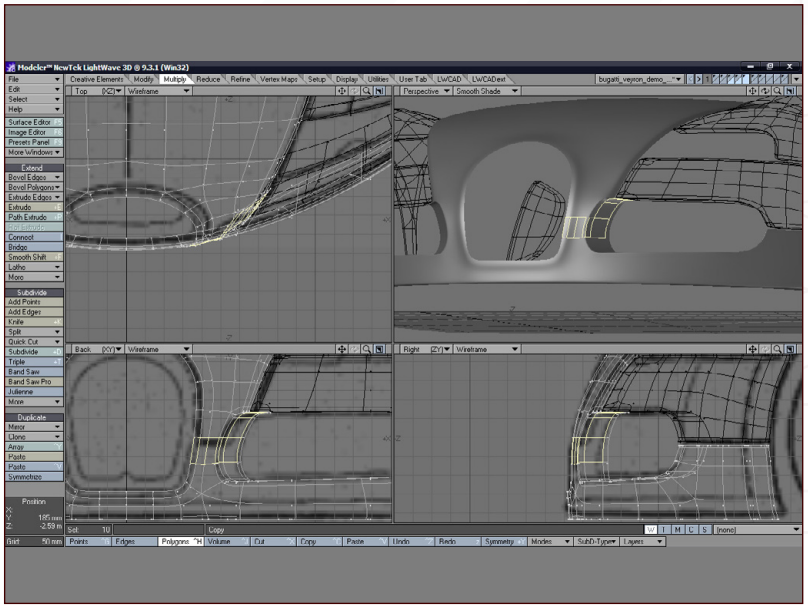


Fig 12

Select two polygons, as marked in the image, and Spinquad them to clean the geometry a little more. Insert the shown quads after spinning (**Fig.12**).

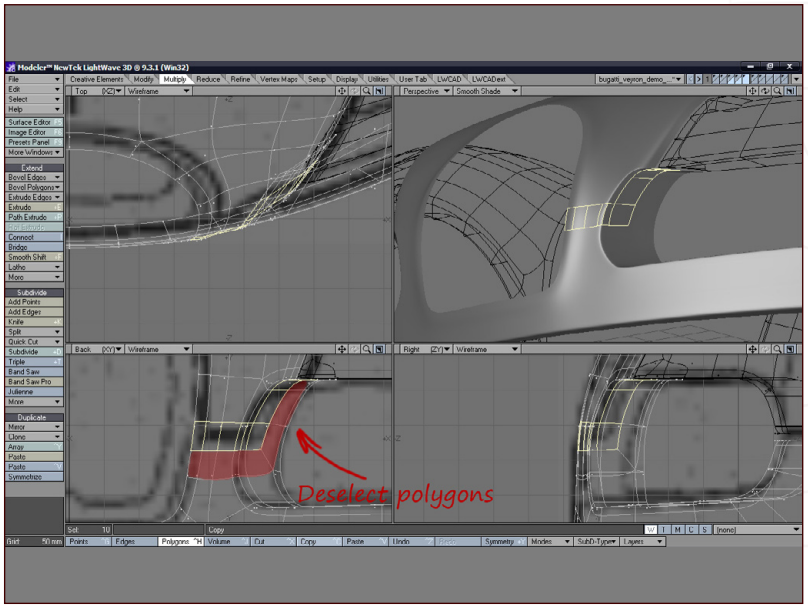
Select the polygon band like in the image. Run Multiply > Subdivide > QuickCut > QuickCut1 to add instant cut to the band (**Fig.13**).

Fig 13



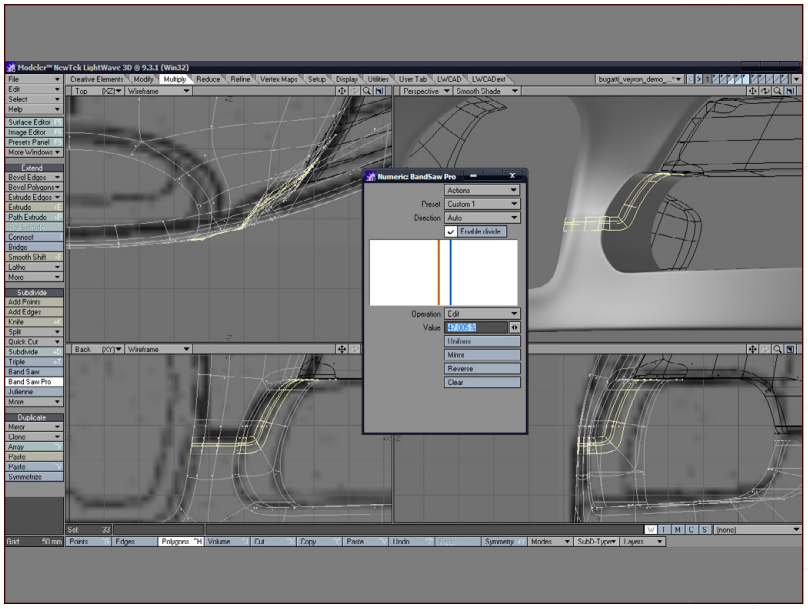
Switch back to polygon selection mode and deselect the lower polygon band made by the QuickCut1. Then run that command again to split the upper polygon band (**Fig.14**).

Fig 14



Switch back again to polygon selection mode and now deselect the upper band so you are left with a straight polygon loop. Now run BandsawPro to make two close cuts in the middle of the band (**Fig.15**).

Fig 15



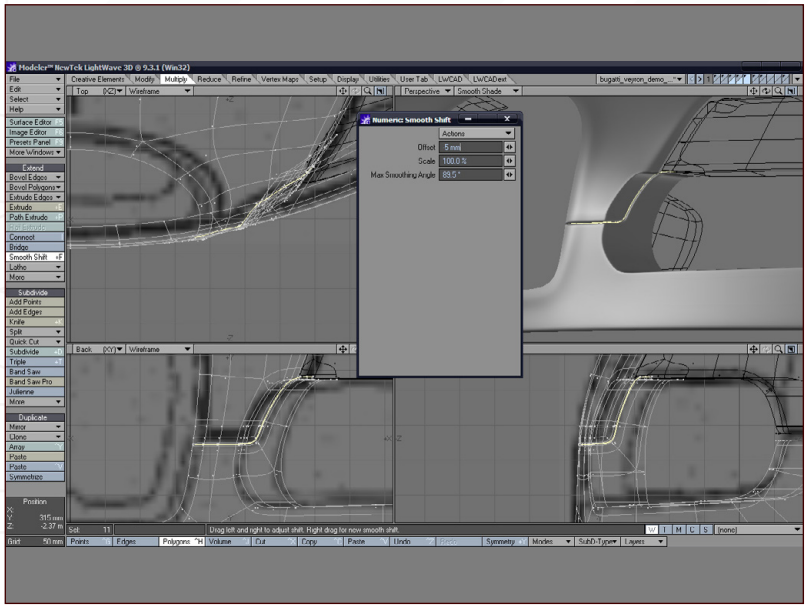


Fig 16

Close the Bandsaw panel and hit Shift + "[" to contract the polygon selection. Finally, run the Smooth Shift command and shift polygons slightly inwards (-5mm in value). That makes the bottom edge of the hood (**Fig.16**).

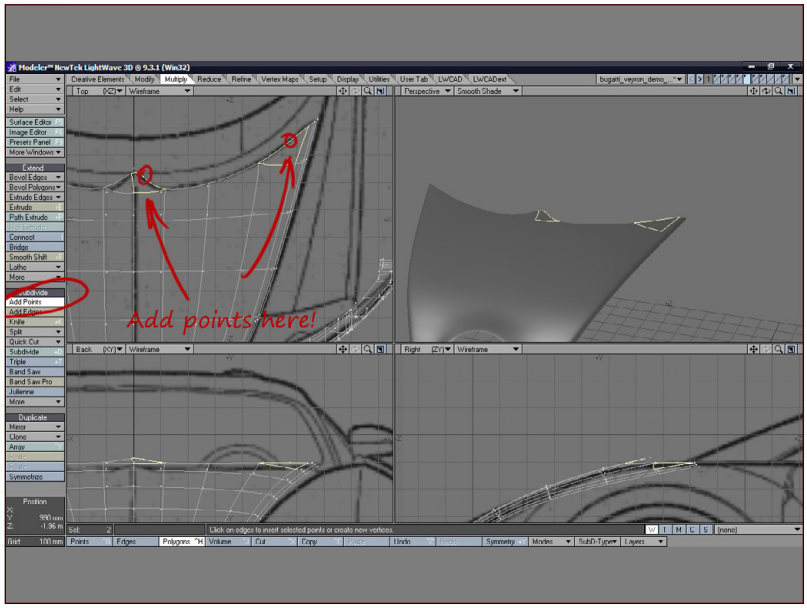


Fig 17

Select two polygons from the top of the hood, and use 'Add points' to add two points, as shown in the image. This will turn them into quads and also sharpens them. Copy these changes to the other side of the hood (**Fig.17**).

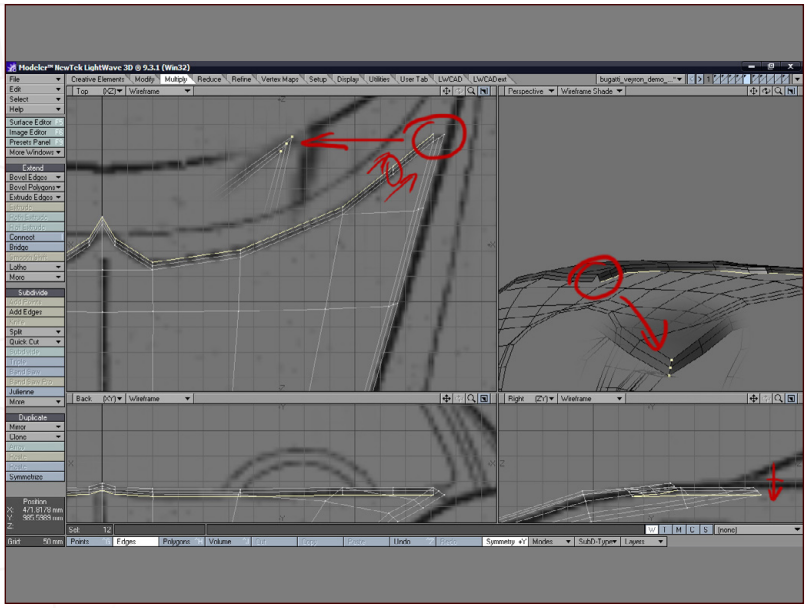
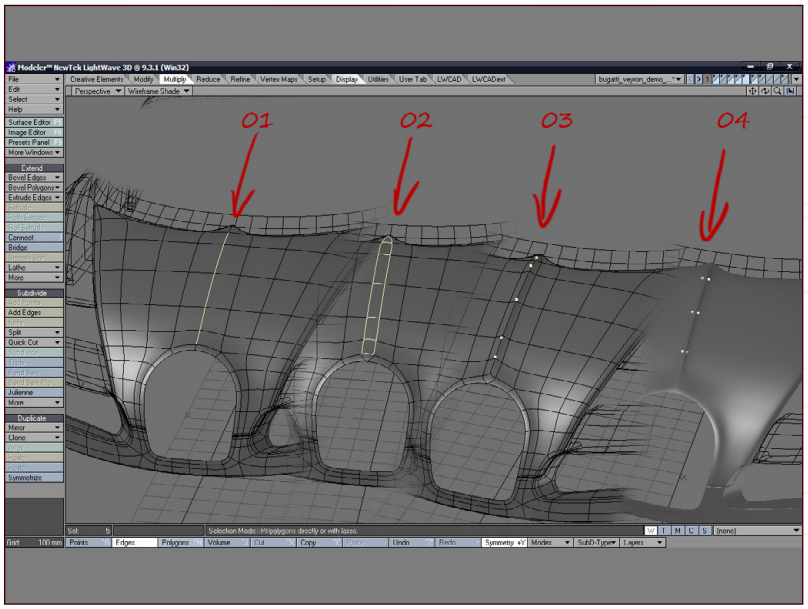


Fig 18

Select the top hood edge and extend it twice downwards to make a seam. Weld the average corner points on both the left and right side of the hood. In top view mode, end points closer together to make the corners sharper (marked with two arrows) (**Fig.18**).

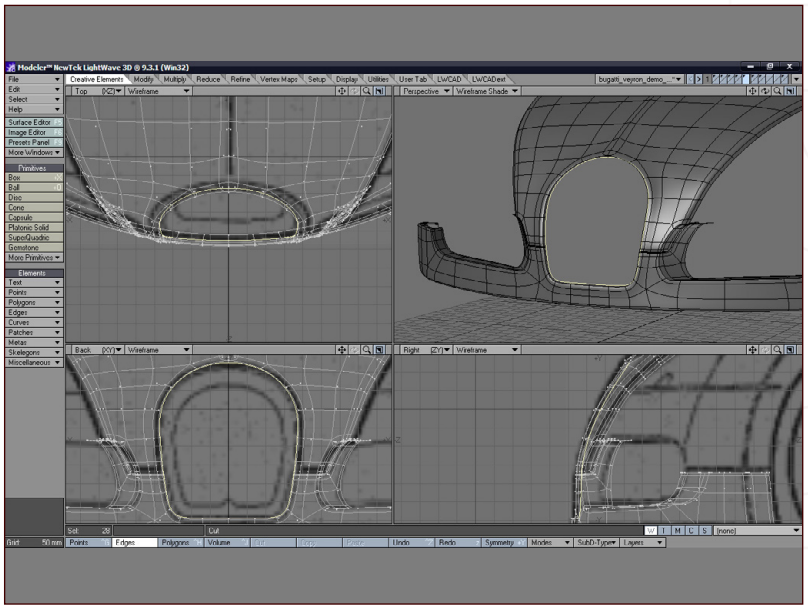
To make a centre line, select edges, like in Step 01. Run Edge Bevel on them to expand the edges. From the Selection menu, choose Select Polygons to convert the selection into polygon selection. Now, deselect the lowest polygon and hit “L” to split polygons (Step 02). Switch to point selection mode and again deselect the lowest point. Lift these points upwards slightly (you might want to turn to smooth shade mode so you can better see if it is too much or too little). Now select the side points (Step 04) and stretch them slightly to sharpen the centre line. You might want to split two end polygons (ones that go across zero on the X-axis) into triangles in order to easier mirror them afterwards (**Fig.19**).

Fig 19



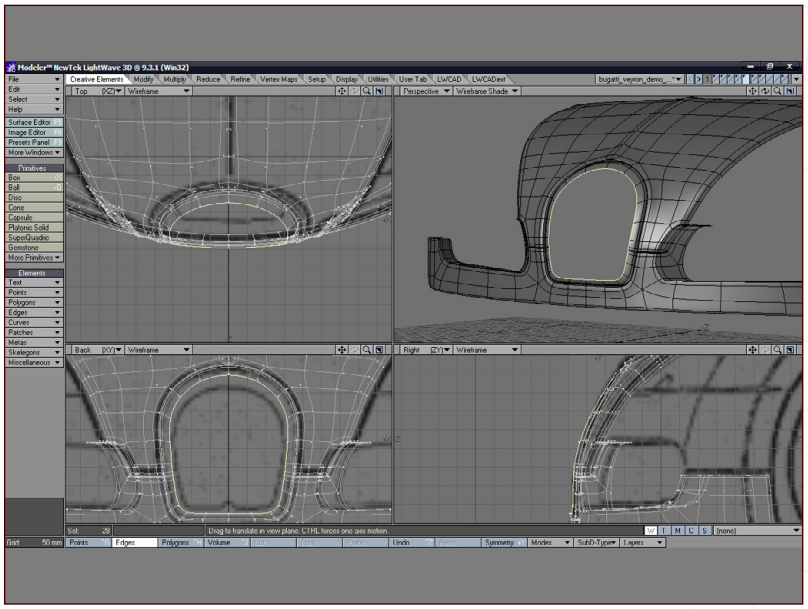
Select the inner edge of the central air duct, extend it once and push it slightly inside. Then extend it again and scale it down a bit. Than extend again and push it back to the front. That way you create a sort of U shape before we go on to create the metal rim (**Fig.20**).

Fig 20



Extend again and scale down a little. In front view, stretch the rim until the points are evenly distributed (**Fig.21**).

Fig 21



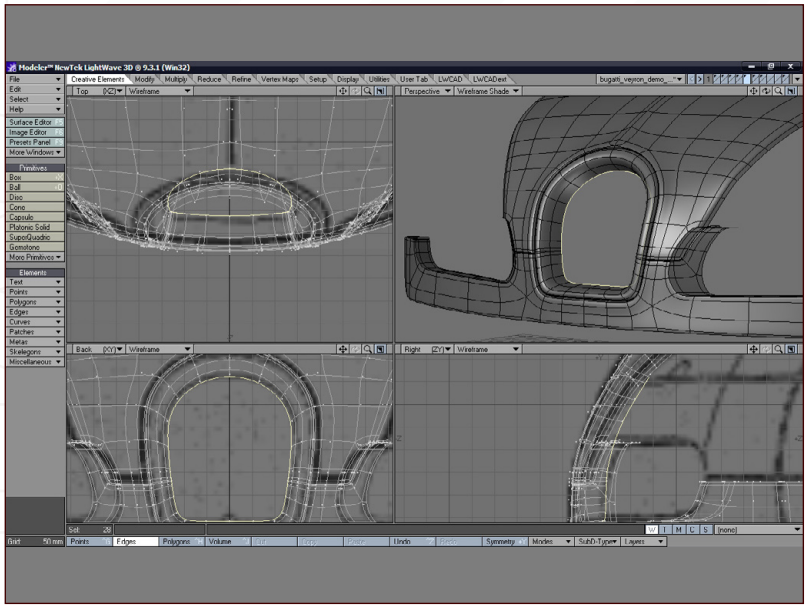


Fig 22

Now extend it a few more times and push the rim deeper inside the car. The central air duct is fairly deep in the Bugatti Veyron (**Fig.22**).

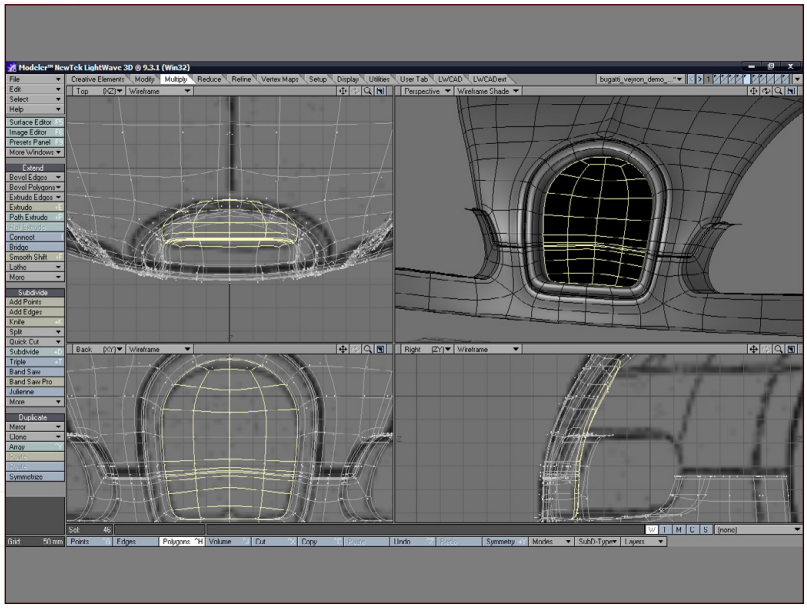


Fig 23

Extend the inner edge twice more and stretch it down on the X-axis. Remove some of the upper and lower triangles. (This part is quite insignificant as it will be totally black.) (**Fig.23**).

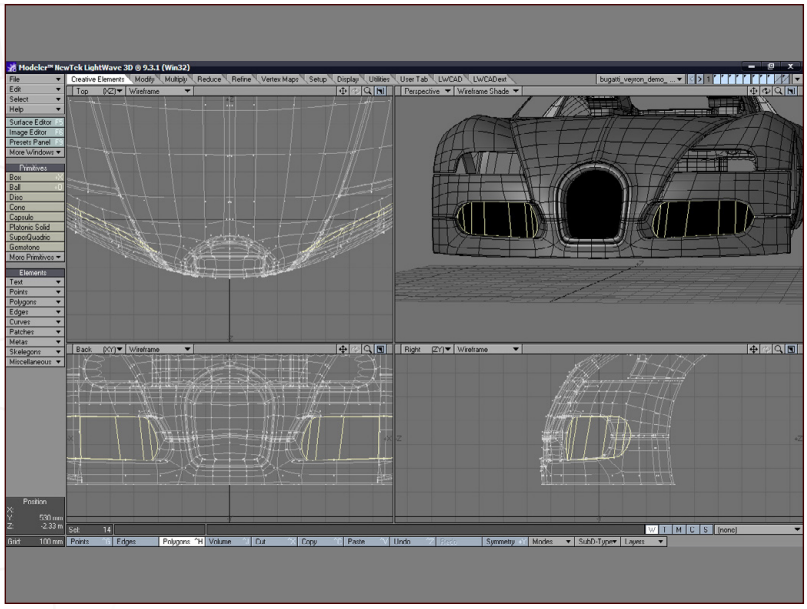
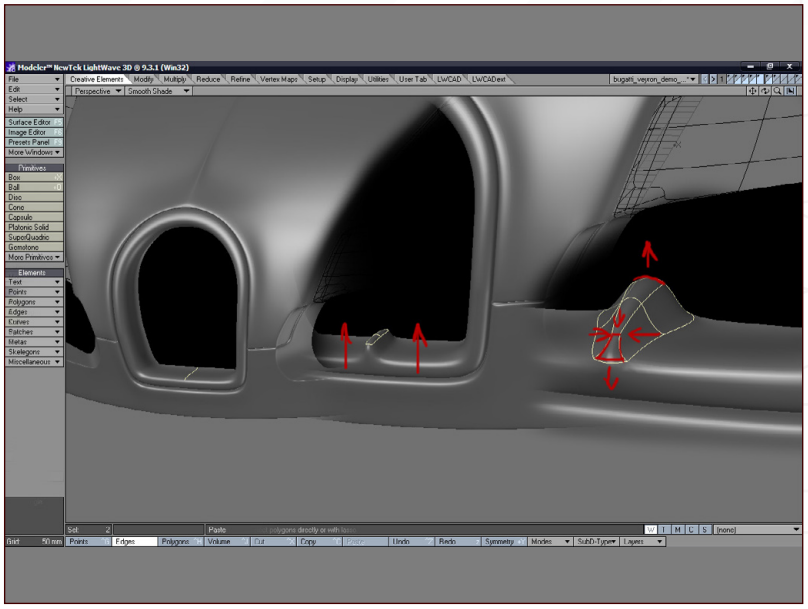


Fig 24

Using the same technique create two black-holed polygons. You can also select points and hit “P” to make polygons (**Fig.24**).

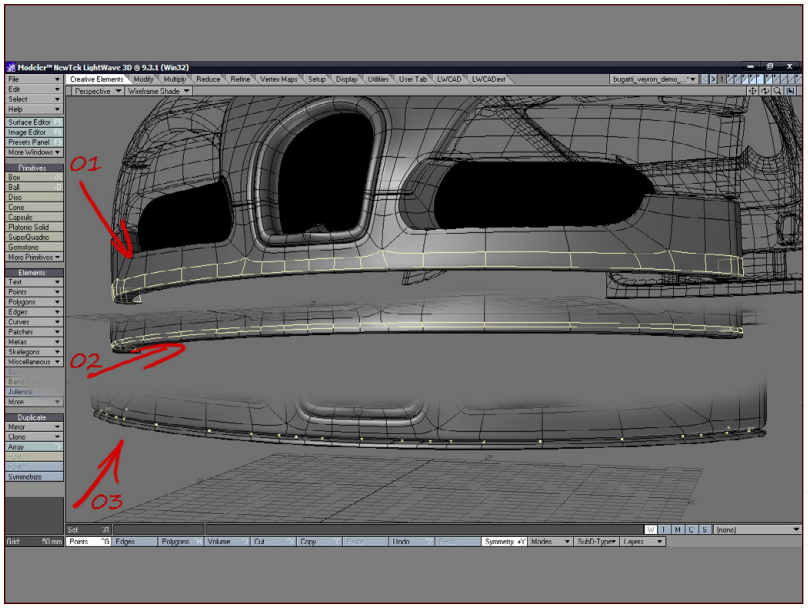
Select two edges in the middle of the rim; Edge bevel them once and select the newly created polygons. Extend them once and lift them up a little. Use the Drag point tool (Ctrl + T) to adjust the shape into more triangular and pointy ones (**Fig.25**).

Fig 25



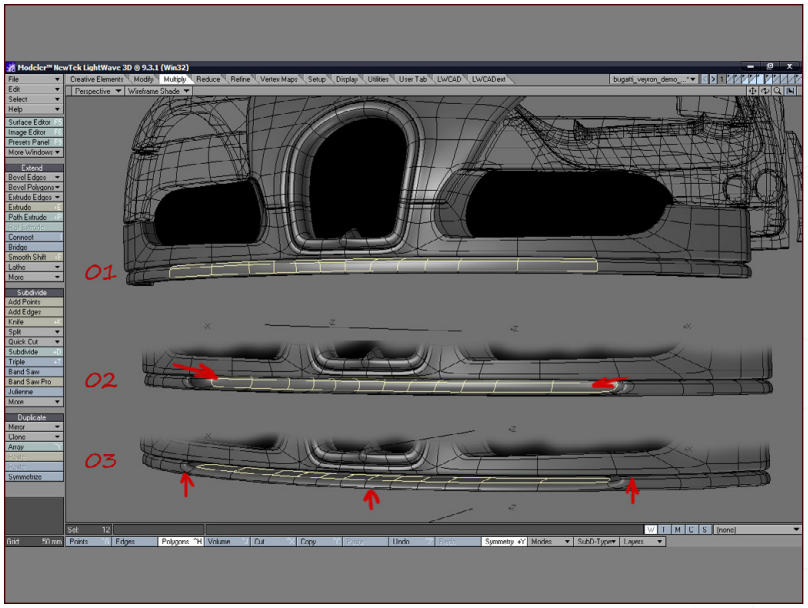
Select the polygons, as in the image. Press “E” to extend them once and to stretch them downwards about 25% on the Y-axis (Step 02). Bandsaw these polygons with one cut on about 50% and hit Space to switch to point selection mode. This will leave you with points in the middle selected. Scale these points down to 90% (Step 03). In side view, adjust the point rows of the seam and bottom so they fit the background image (**Fig.26**).

Fig 26



Again, select the shown polygons. Extend them once and move them slightly inwards. Extend them again and push them more into the bumper. Select the lower polygons (Step 03) and move them up a little (**Fig.27**).

Fig 27



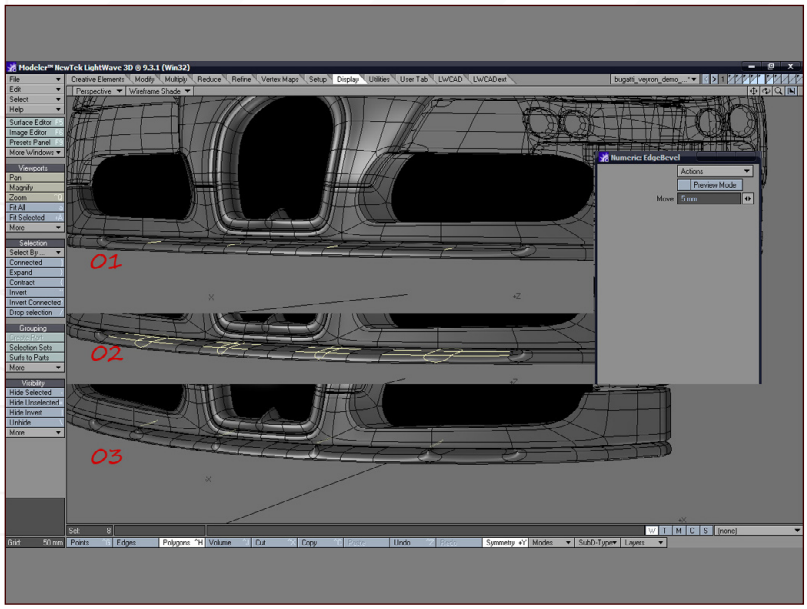


Fig 28

Select the edges, like in the image. Activate the Bevel Edge and hit “N” to bring up the numerical requester. Enter a smaller value, something like 5mm, and close it. In the selection panel go to select polygon. Deselect the first four triangles and hit “E” to extend. Move them up a bit and extend again. Move them up until they meet the upper side (**Fig.28**).

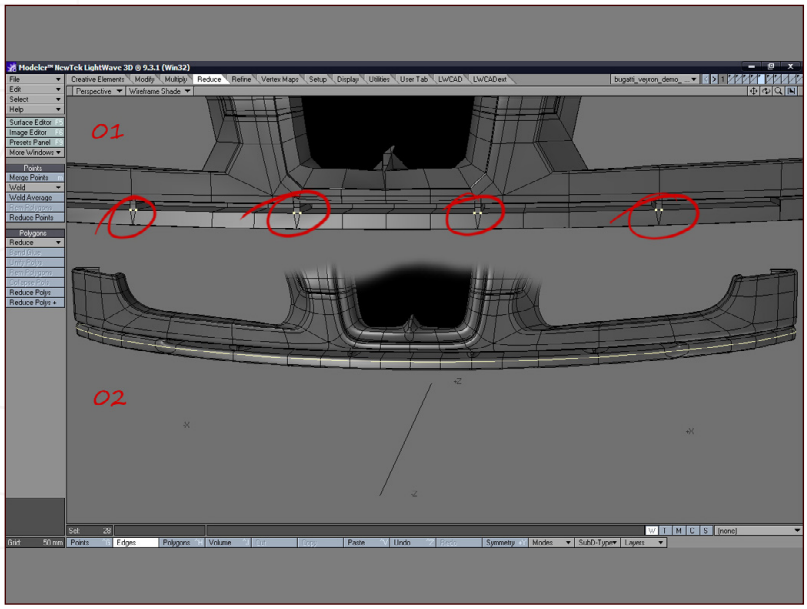


Fig 29

Use Weld Average to weld upper point pairs of the front triangles. Press “W” to bring up the polygon statistics and select and delete all 2-point polygons. In the side view, use the Knife tool to add a cut to the upper edge (marked yellow in Step 02). Hit “M” to merge the duplicated points (**Fig.29**).

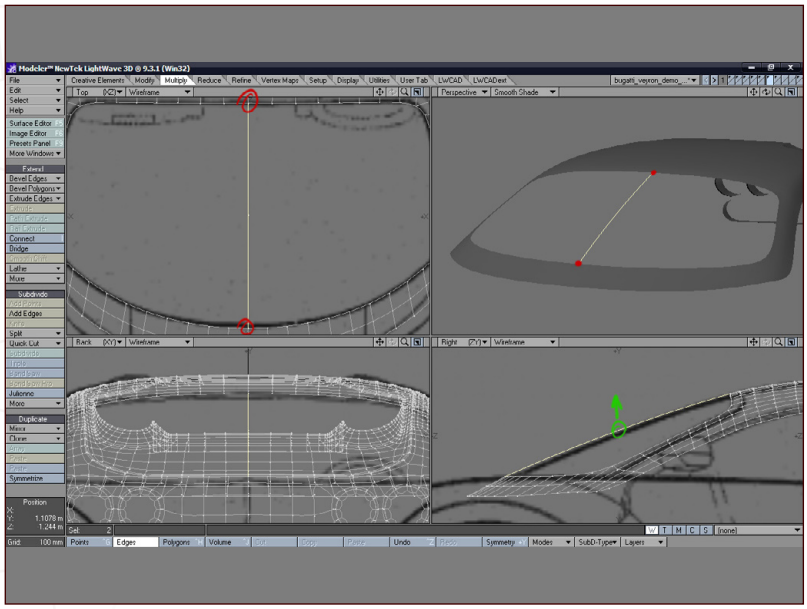
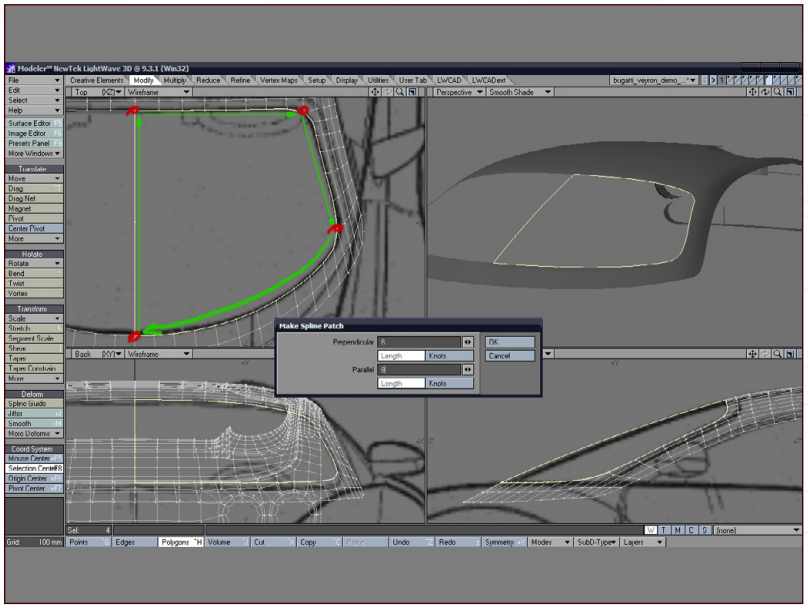


Fig 30

Now we need to make the front windshield. Select two points, marked red in the image, and hit Ctrl + P to make a two-point curve. Use ‘Add points’ to add another point in the middle and move it up a bit (**Fig.30**).

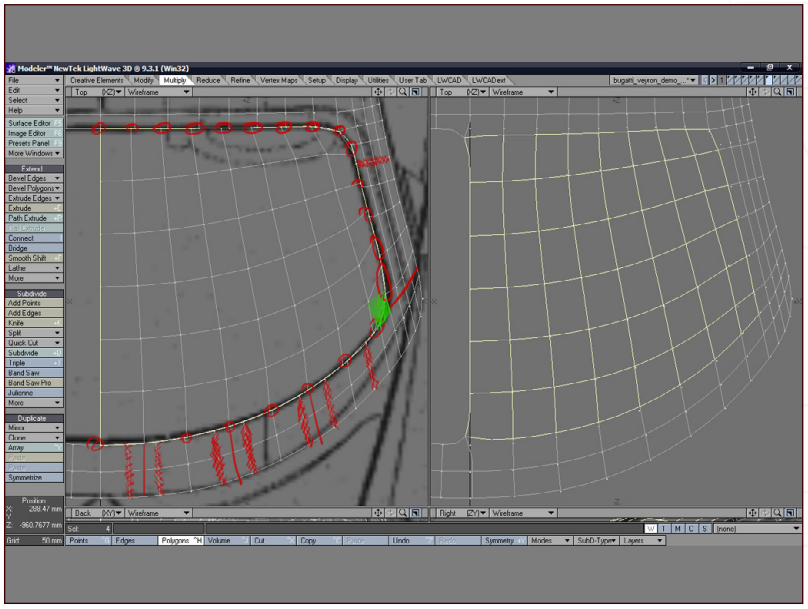
Make 3 more curves, like in the image, and hit Ctrl + F to bring up the Make Spline Patch requester. Enter 6 for Perpendicular and 8 for Parallel, then hit OK. This will fill the space between the curves with necessary polygons for the windshield. You will probably need to select all newly created polygons and flip them if they are facing downwards (**Fig.31**).

Fig 31



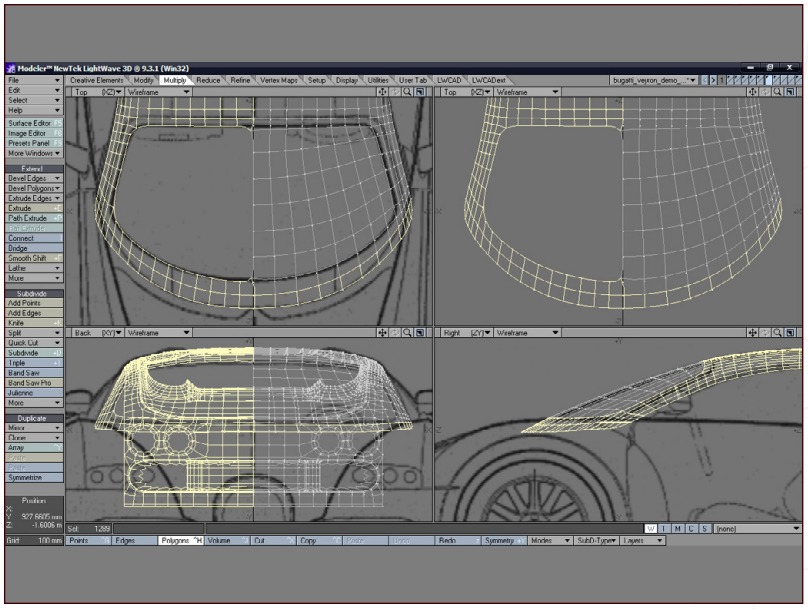
Follow the image weld points, marked with red circles. On the right and lower side of the windshield you'll need to adjust the surrounding geometry by adding cuts where there are red lines, and remove polygon pairs where shown. The green square shows the corner polygon. On the right side you can see the final result (**Fig.32**).

Fig 32



Select the lower end and all the polygons on the left side and delete them (**Fig.32**).

Fig 33



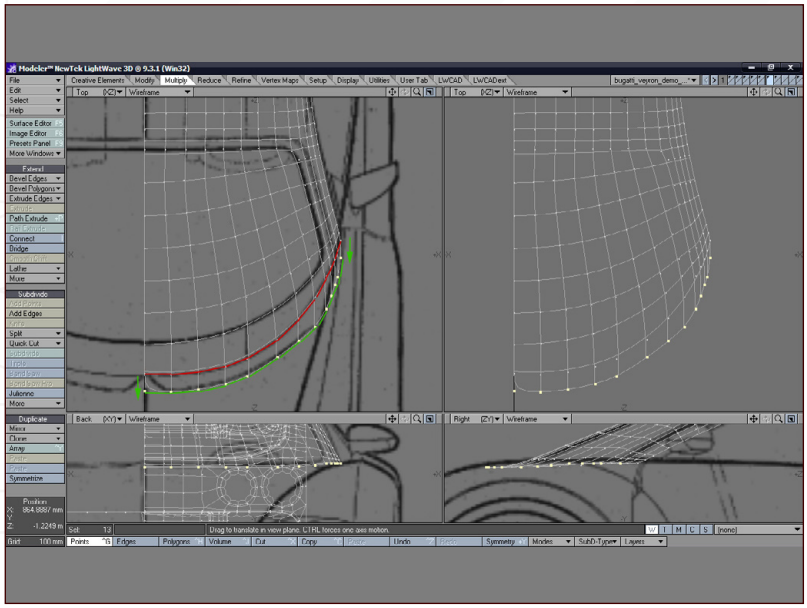


Fig 34

Adjust the bottom of the windshield so it fits the backdrop (marked red). Extend these points once and move them to the front of the car slightly (green line). Use Drag to adjust them to the backdrop (**Fig.34**).

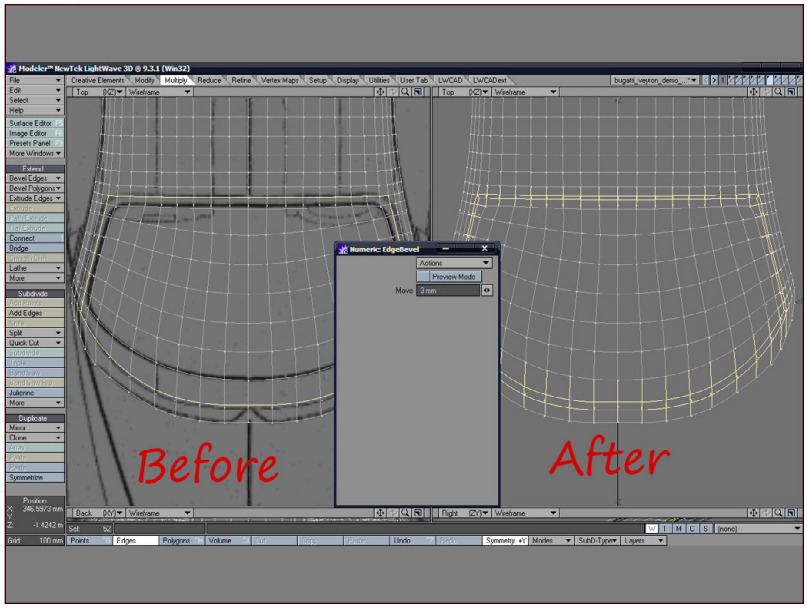


Fig 35

Mirror the right side to the left and select the edges that make the windshield. Apply Bevel edges with a small amount of 3mm (**Fig.35**).

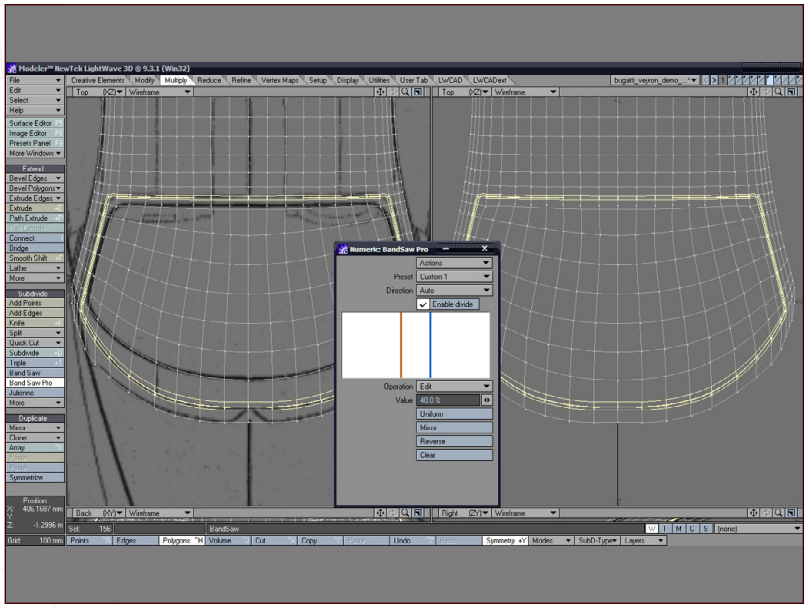
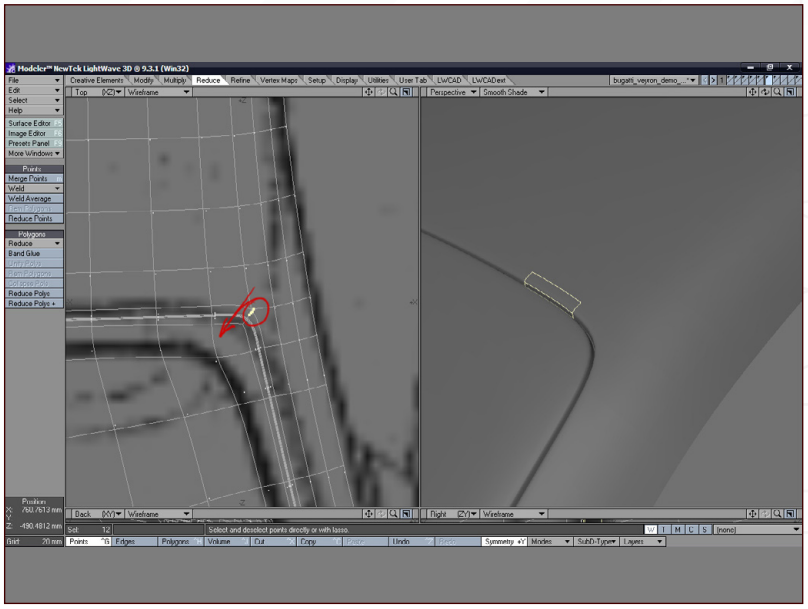


Fig 36

Hit Ctrl + "[" to contract the Edge selection and go to Display > Selection > More > Select Polygons to convert the edge selection to polygon selection. Now Apply BandSaw Pro with two cuts: one with 40% and the other with 60% (**Fig.36**).

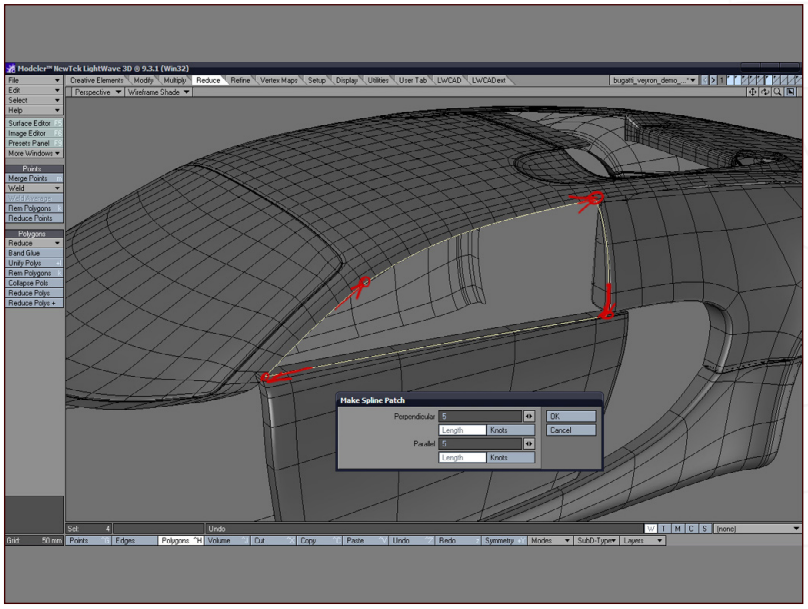
Hit Ctrl + "[" again to contract the polygon selection. Move the selected polygons down about 1mm, hit "E" to extend them once, and move them downwards again for some 4-5mm. Now we have the edge between the windshield and car's body (**Fig.37**).

Fig 37



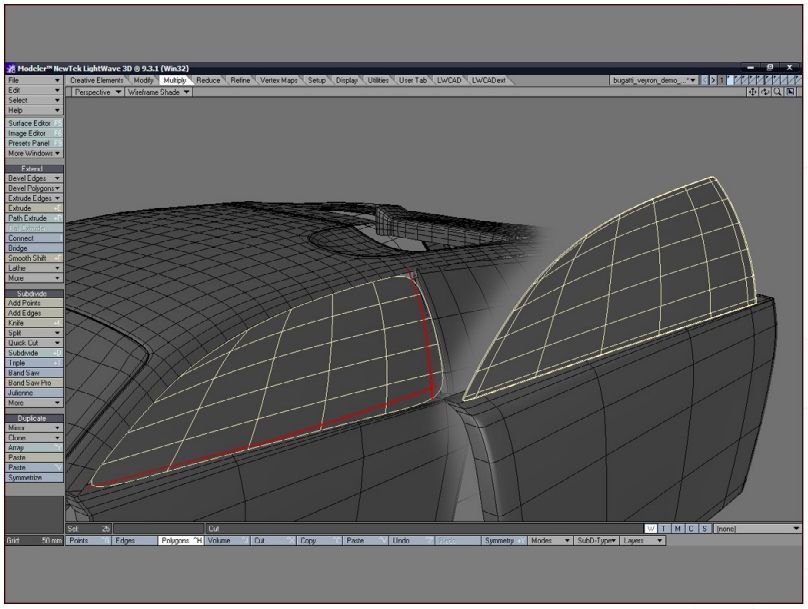
Move the corner points of the upper side to make the windshield rounder, and select two polygons, like in the image, and apply Bandglue to join the polygons and make the body edge softer (**Fig.38**).

Fig 38



Use the corner points of the surrounding car parts to make four curves for the side window. Subpatch curves to make a 5x5 polygon window (**Fig.39**).

Fig 39



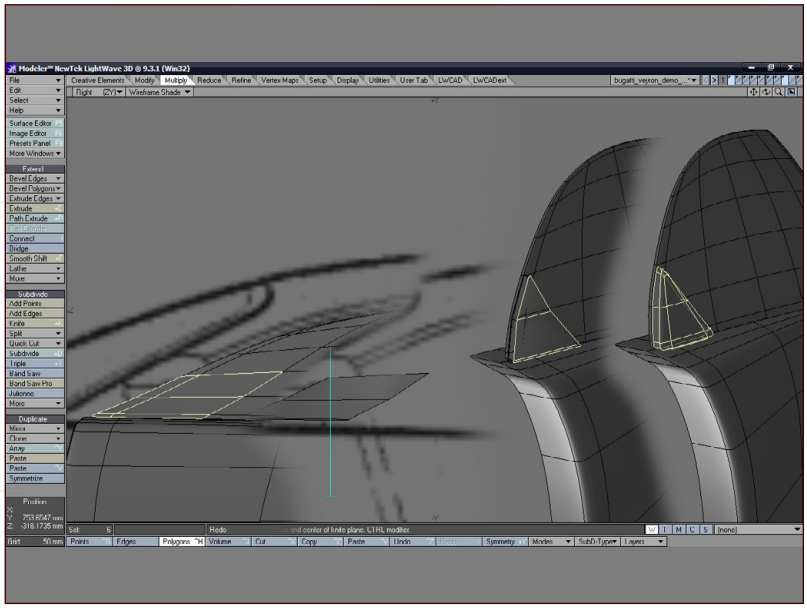


Fig 40

Use Bandsaw to make two cuts just next to the lower and back edge. Select the loop edge points and extend them, and then move them twice to the inner side to make the glass a little thicker (**Fig.40**).

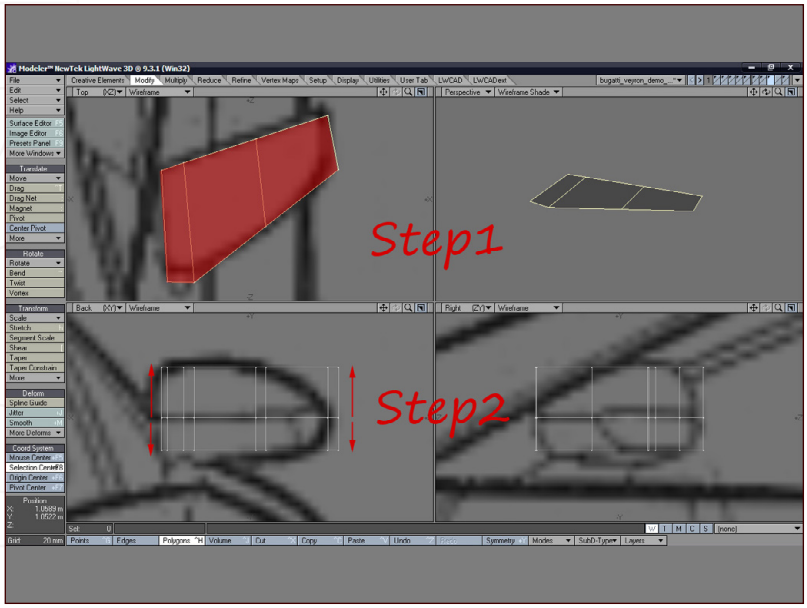


Fig 41

Select the corner bit and copy it to another layer. Cut vertically, like in the image, and delete the polygons on the right side of the cut. Extend the polygons to make the piece thicker and flatten the polys (Modify > Translate > More > Flatten). Extend them once more and move them just slightly out. Copy the piece back and drag to adjust it so it fits better with the rest of the car pieces (**Fig.41**).

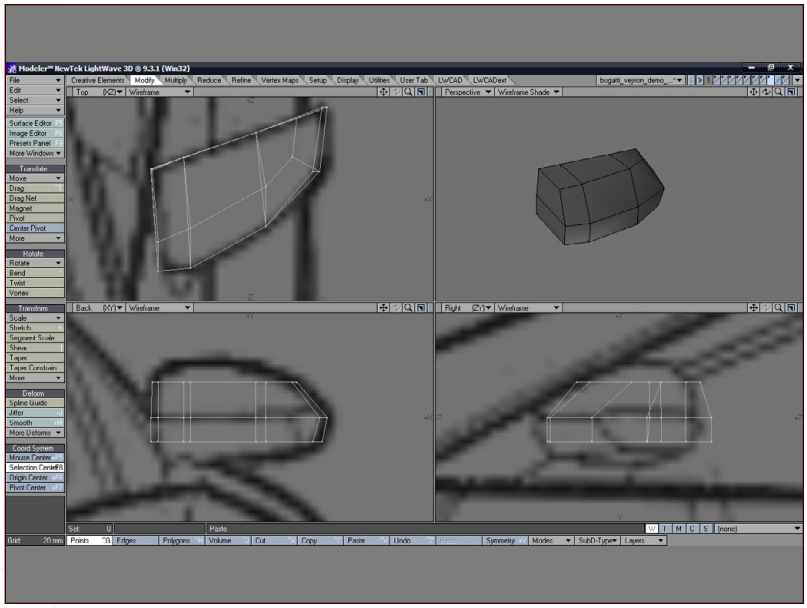
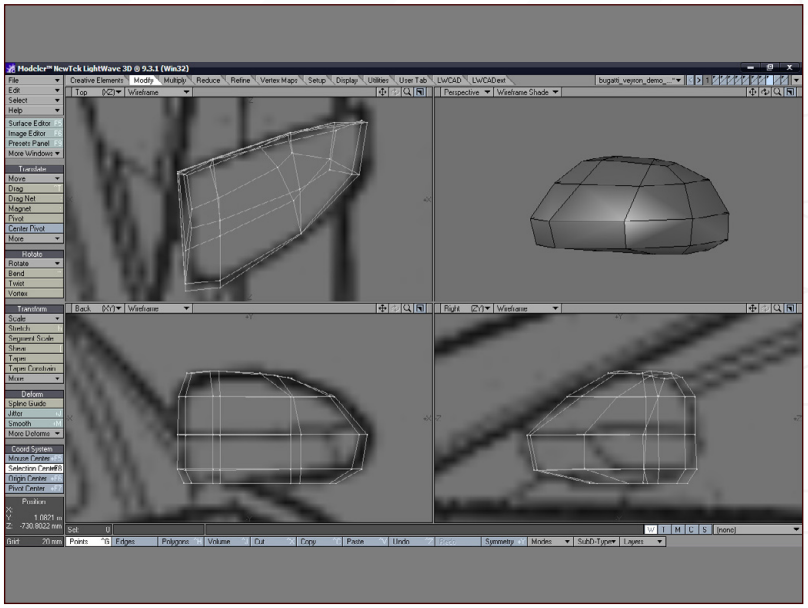


Fig 42

Use the Pen tool to make the base for the side mirrors. Extrude polygons downwards, then select the base again and extend it upwards (**Fig.42**).

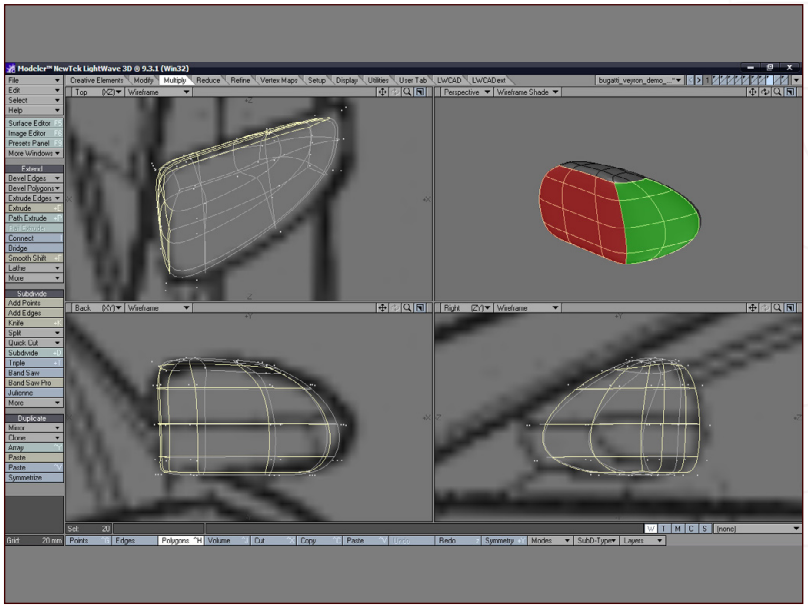
Rearrange the points so they describe the shape a little better (**Fig.43**).

Fig 43



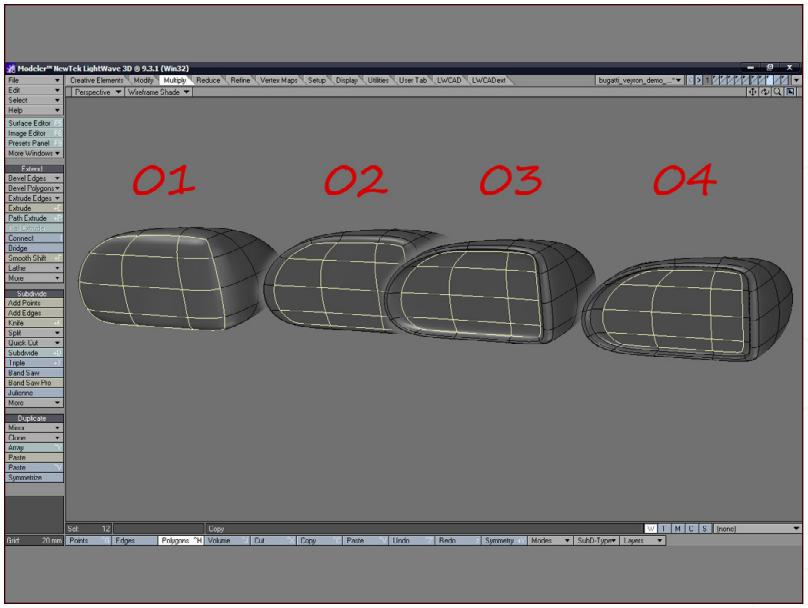
Extend the upper and lower side once more and again drag the points to reshape the mirror body (**Fig.44**).

Fig 44



Select the first polygons, marked red, and flatten them using normal for the axis. Then do the same with the green ones (**Fig.45**).

Fig 45



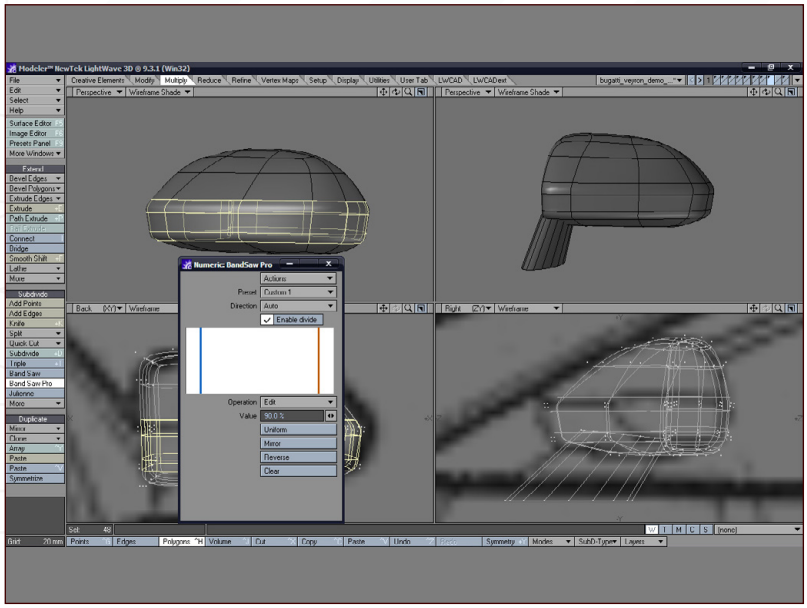


Fig 46

Select the inner mirror polygons (01); extend them and scale them down (02). Extend them again and move them inside (03). Extend them once more and scale them down again (04) (**Fig.46**).

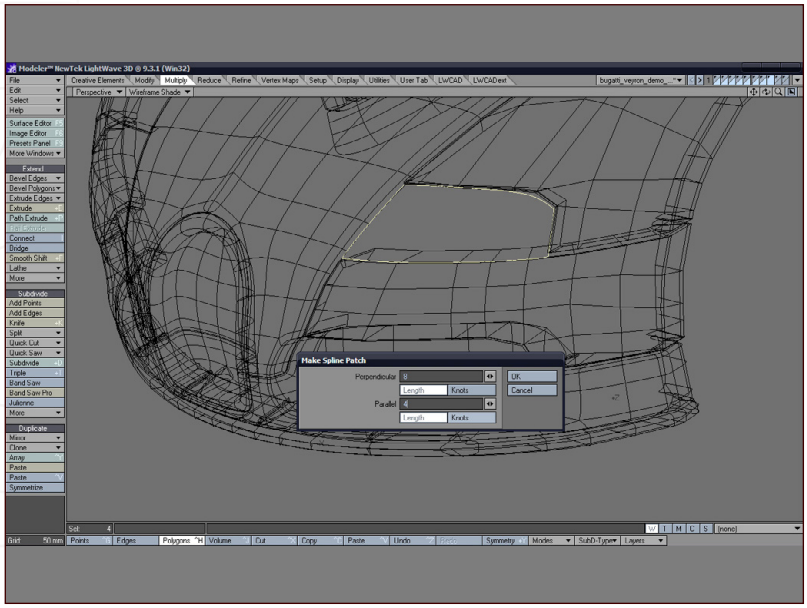


Fig 47

Select the middle row of polygons and use BandsawPro to make two cuts up and down (10% and 90%). Make a simple cylinder and stretch the upper and lower polygons to make the mirror holder (**Fig.47**).

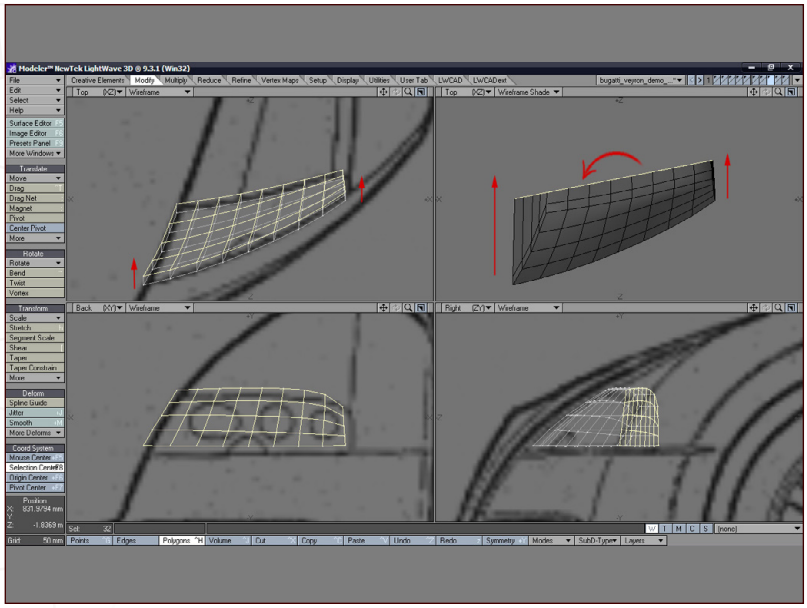


Fig 48

Like we did for the side window, make curves for the front light using points from the surrounding body parts. Spline patch curves to get the front polygons (**Fig.48**).

Extrude the polygons inside a little (left image part). Select the inner polygons and extend them once, then flatten them on the Z-axis and rotate them to the left in top view (**Fig.49**).

Fig 49

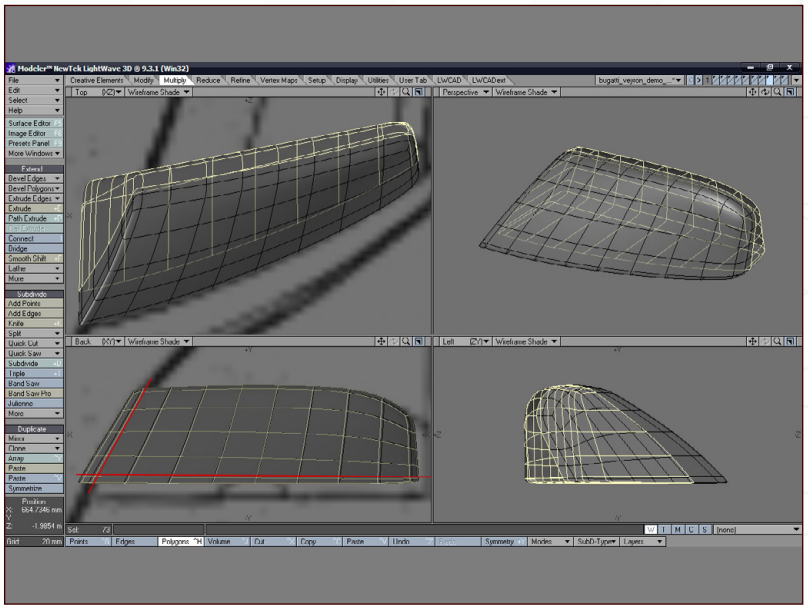
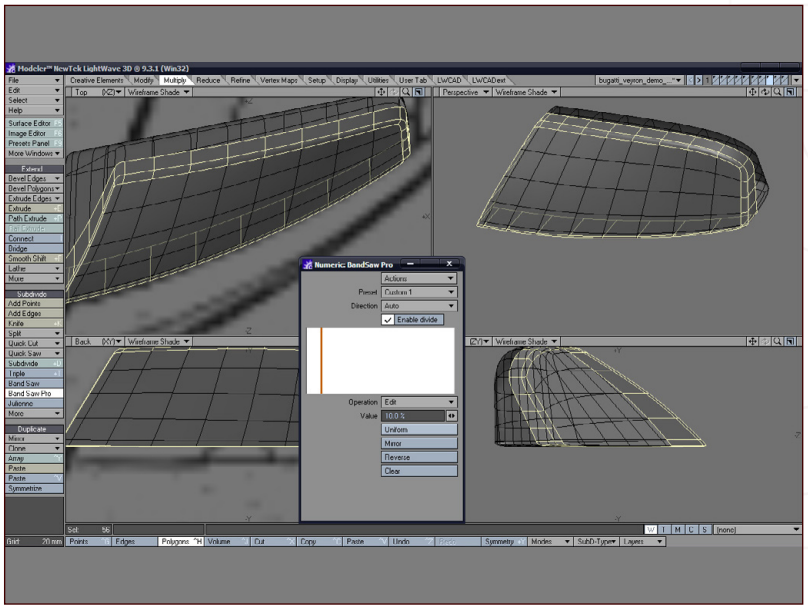


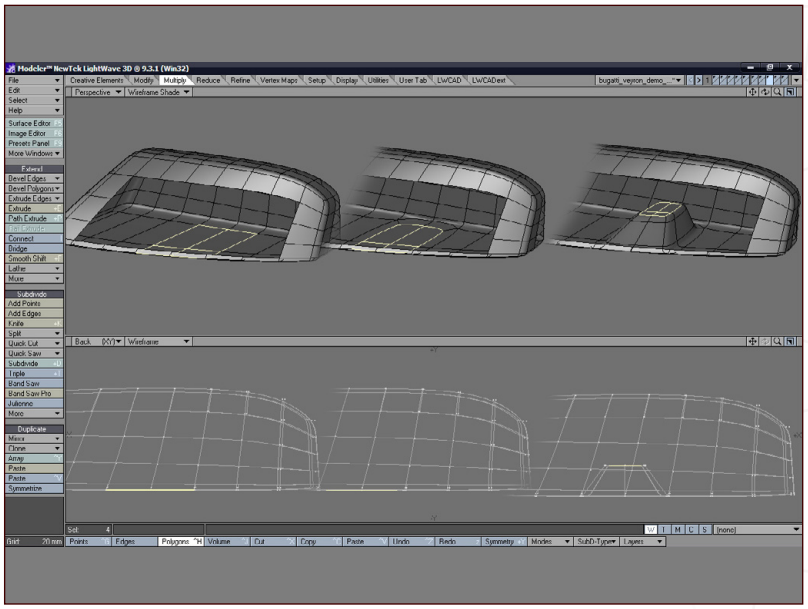
Fig50 Use Bandsaw to cut the lines on the bottom and left side to make the lights sharper. Select the back polygons and flip them (**Fig.50**).

Fig 50



Add another cut to also make the front side sharper (**Fig.51**).

Fig 51



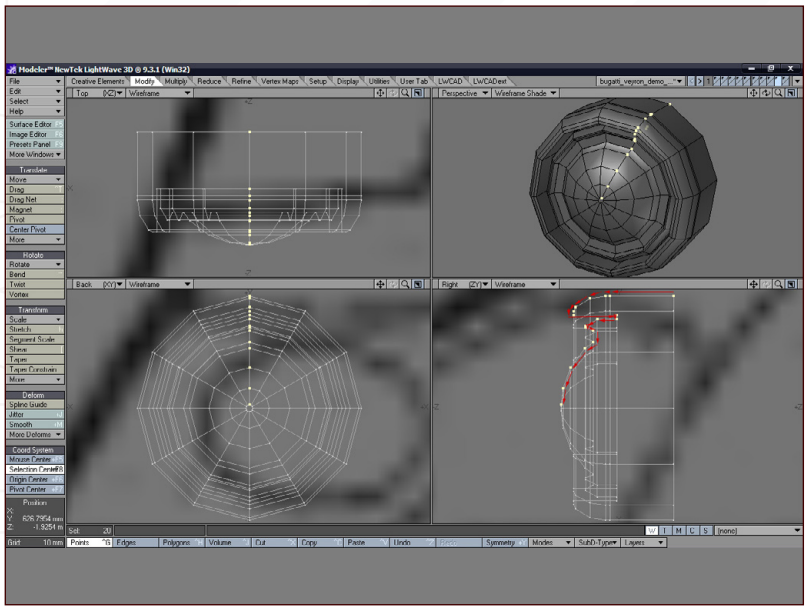


Fig 52

Select 4 polygons, like in the image, and extend them upwards to make the triangular bit (**Fig.52**).

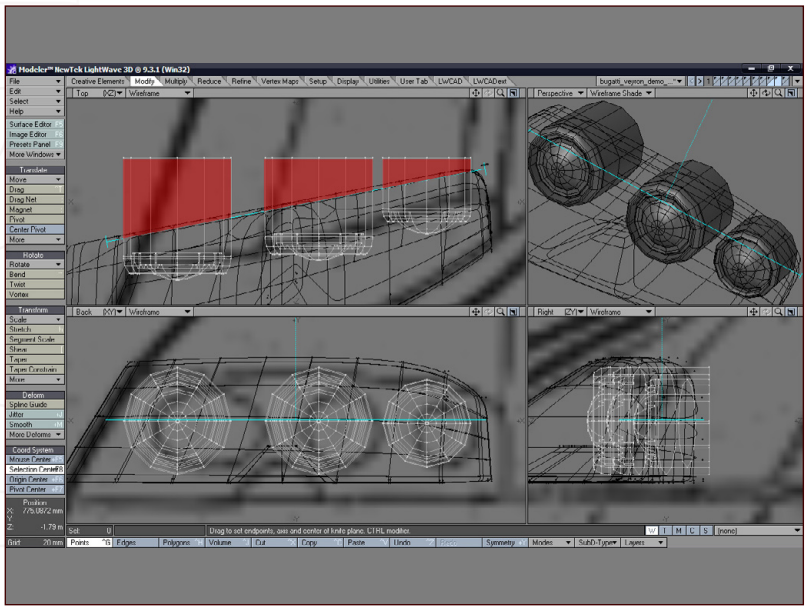


Fig 53

Make a disc and do a series of extensions, as shown in the image (**Fig.53**).

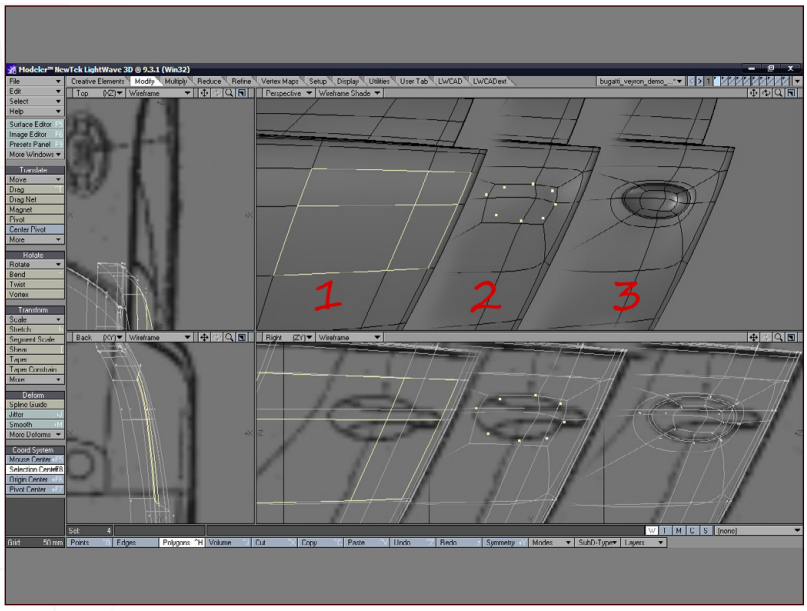
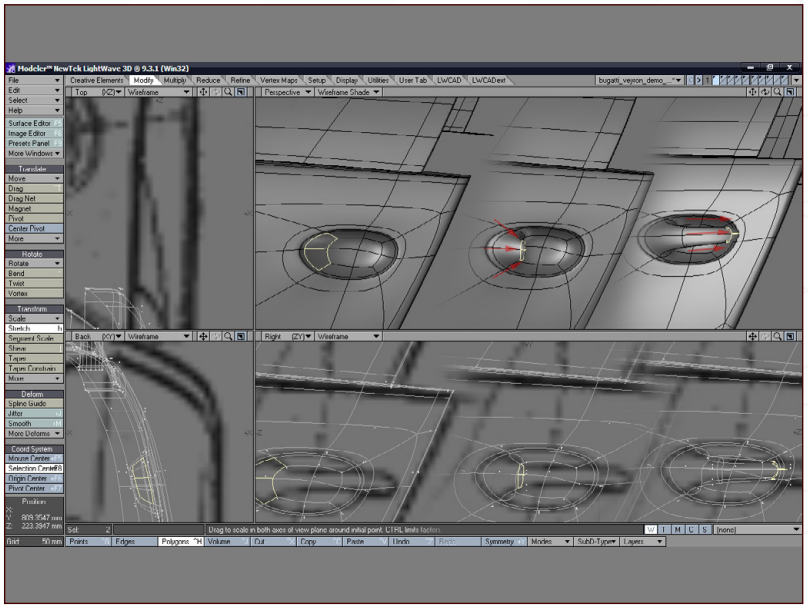


Fig 54

Copy the bulb holder shape twice and scale the third one down. Use the Knife tool to cut back polygons and delete all the polygons marked red in the image (**Fig.54**).

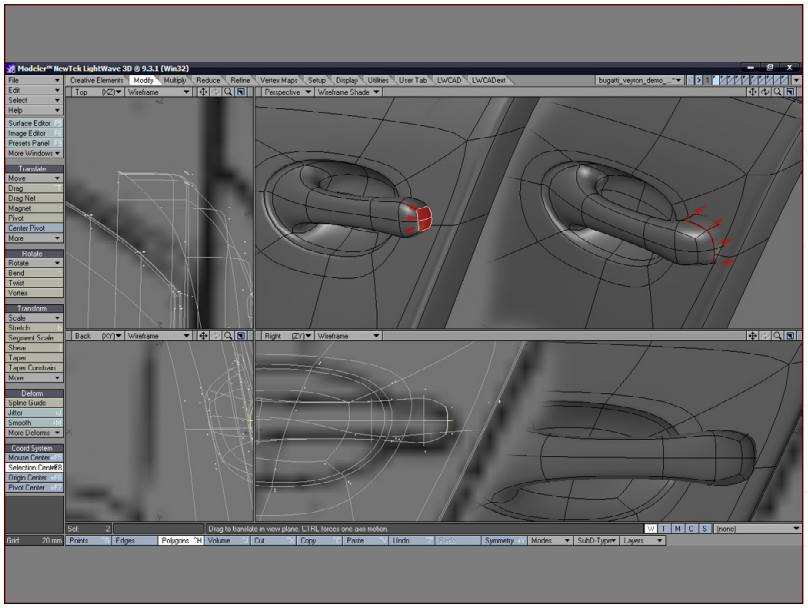
Select 4 polygons surrounding the door handle hole. Use the QuickCut tool to make a cut in the middle (01). Select newly created points and rearrange them so they form an ecliptic shape around the hole (02). Select 4 polygons in the middle, extend them once and move them inwards a little. Extend them again, move them inside the hole and scale them down a touch. Use the drag tool to adjust the shape where needed (03) (**Fig.55**).

Fig 55



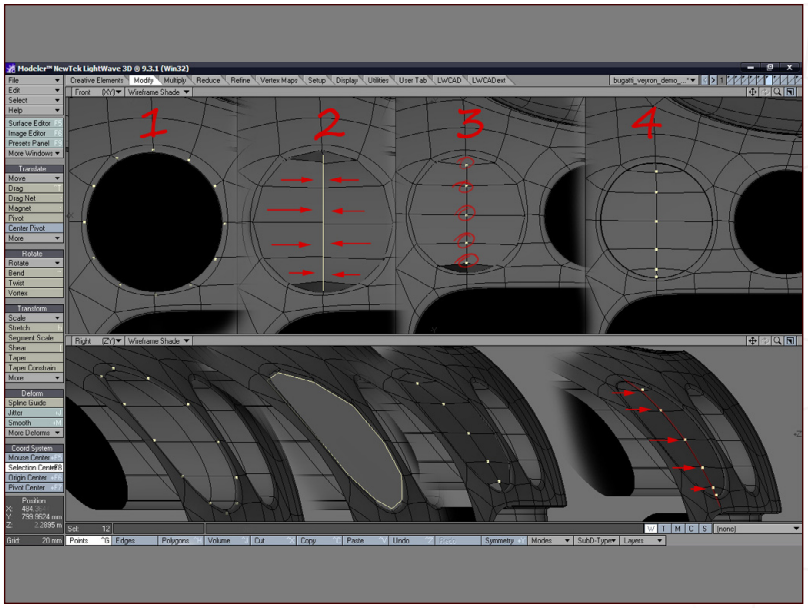
Select four polygons, like in the image, and extend them once. Move them to the middle of the hole and outside a little. Extend them again and move and drag the points to reshape (**Fig.56**).

Fig 56



Extend the same polygons again and move them (again). Select the 4 polygons closest to door and extend them – then reshape again (**Fig.57**).

Fig 57



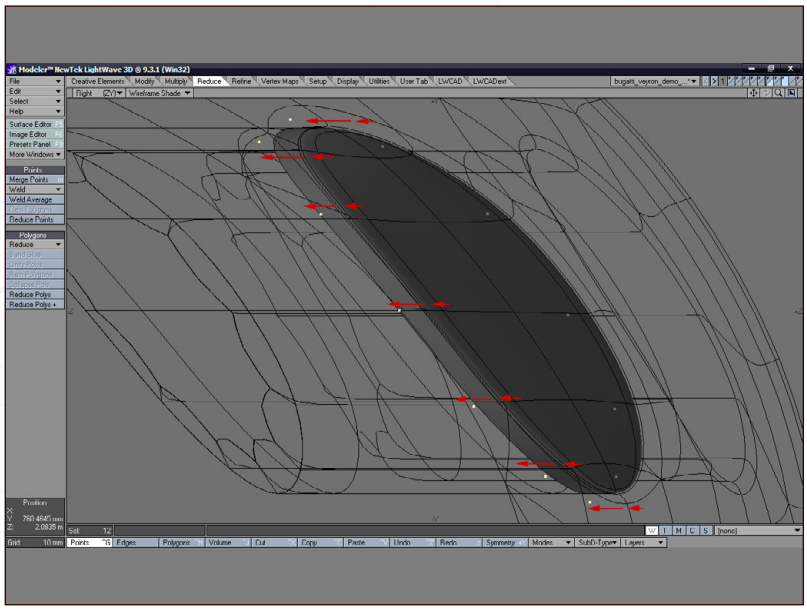


Fig 58

Onto the rear lights! Select the point loop, like in the image, and hit “P” to create polygons (01). Stretch to zero on the X-axis and about 95% on Y-axis (02). Delete polygons and Weld Average point pairs (03). Select polygons, cut and paste them once and hit Tab to turn them into Subpatches, and then use the Drag tool in side view to adjust the curvature of the light (**Fig.58**).

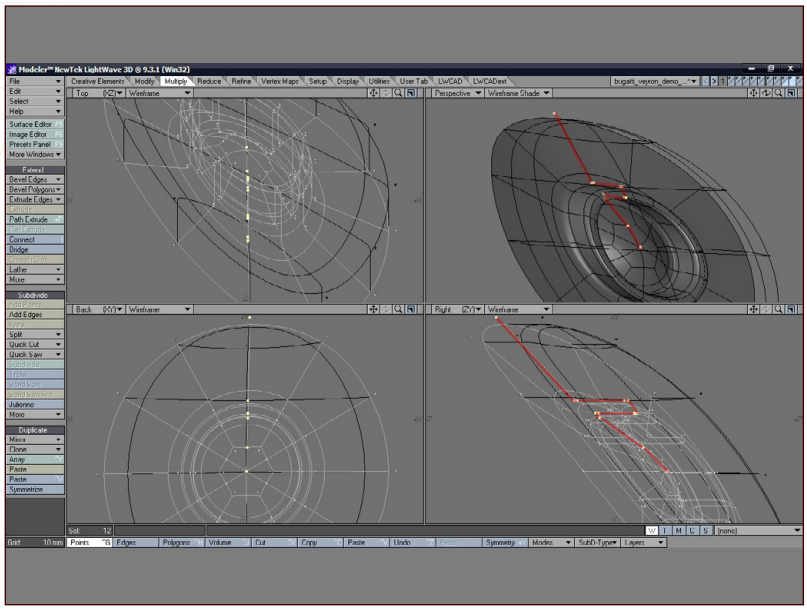


Fig 59

Move the polygons into another layer, select the outer points, and then extend and move them into the car body – twice (**Fig.59**).

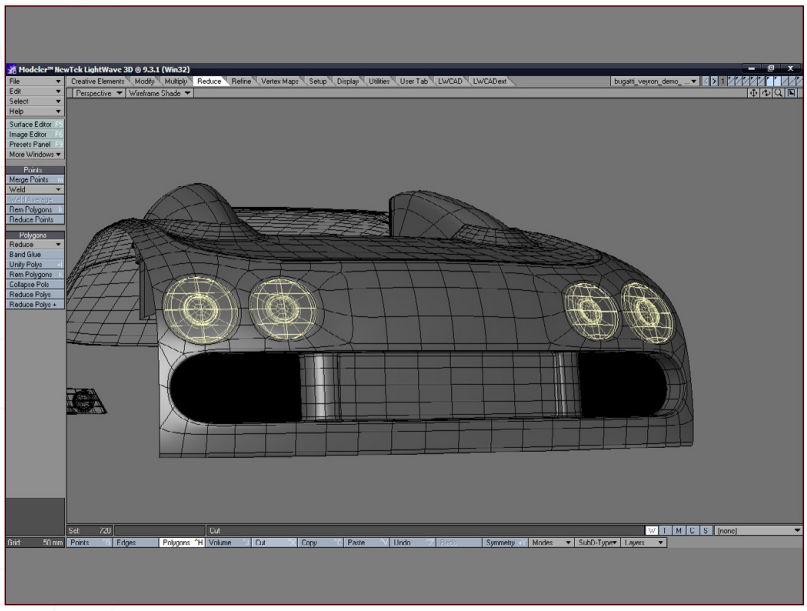
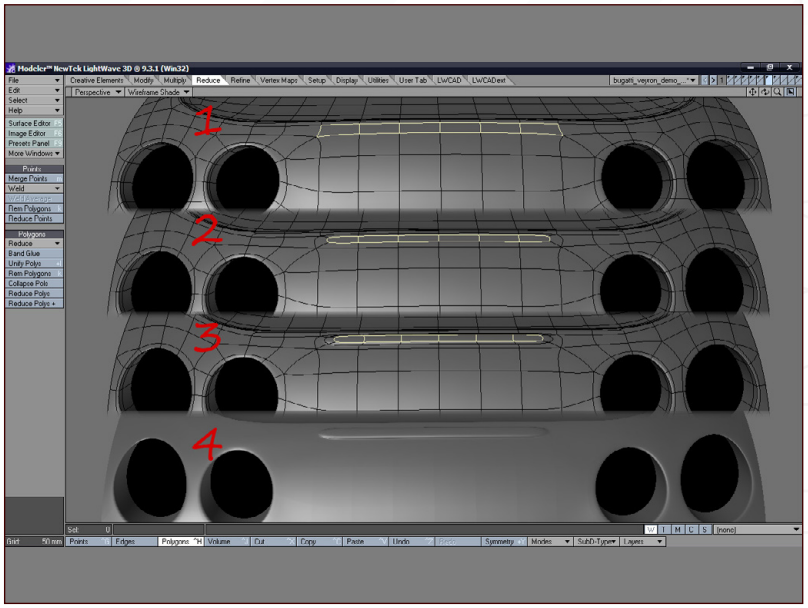


Fig 60

With the outer points selected, do a series of extensions to make the inner part and bulb holder (**Fig.60**).

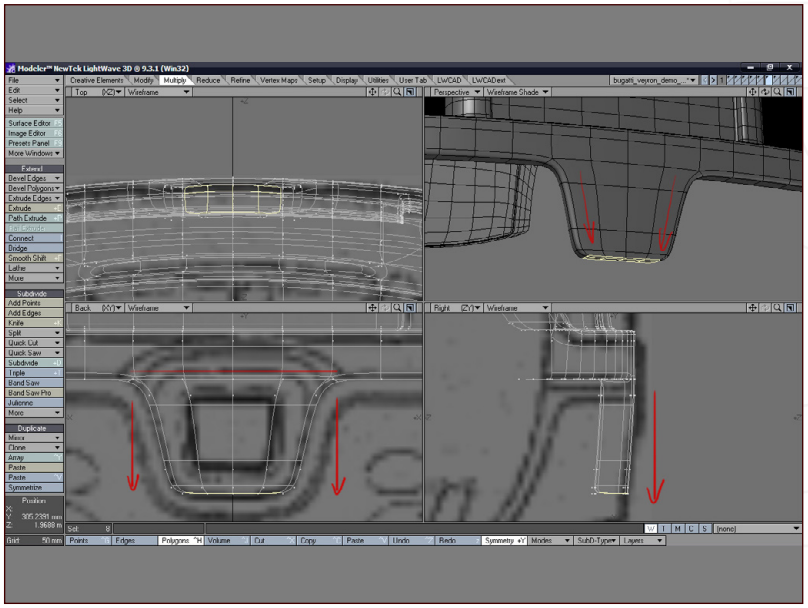
Repeat these steps for the other light. Finally, mirror the light sets to the other side (**Fig.61**).

Fig 61



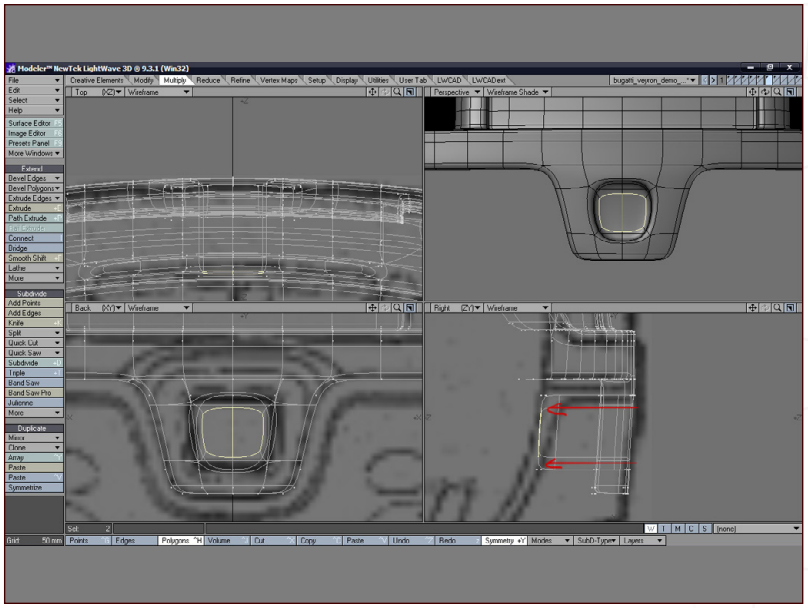
For the third brake light, select the polygons like in the image, extend them once and then scale them down a little. Extend them again, scale them down and move them out slightly (**Fig.62**).

Fig 62



Select the two bottom rows of polygons then extend them and move them down (**Fig.63**).

Fig 63



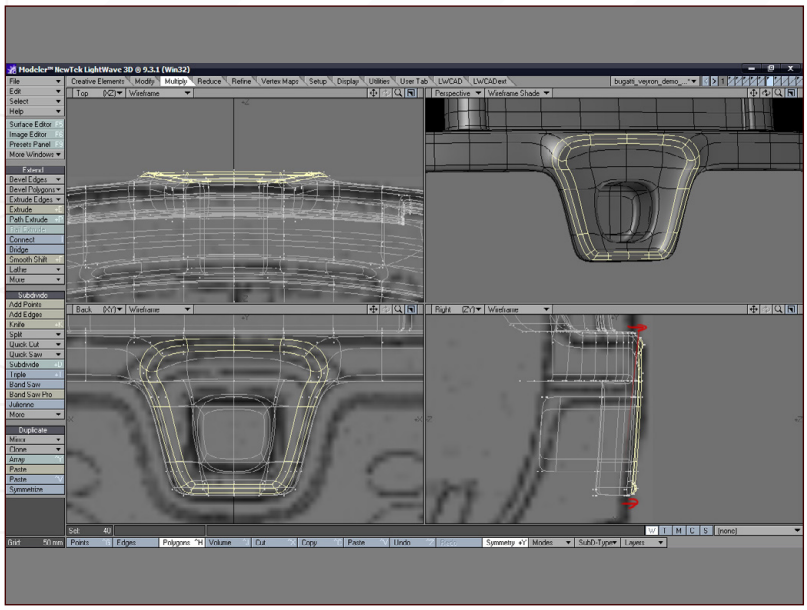


Fig 64

Select two middle polygons: extend and move inwards (**Fig.64**).

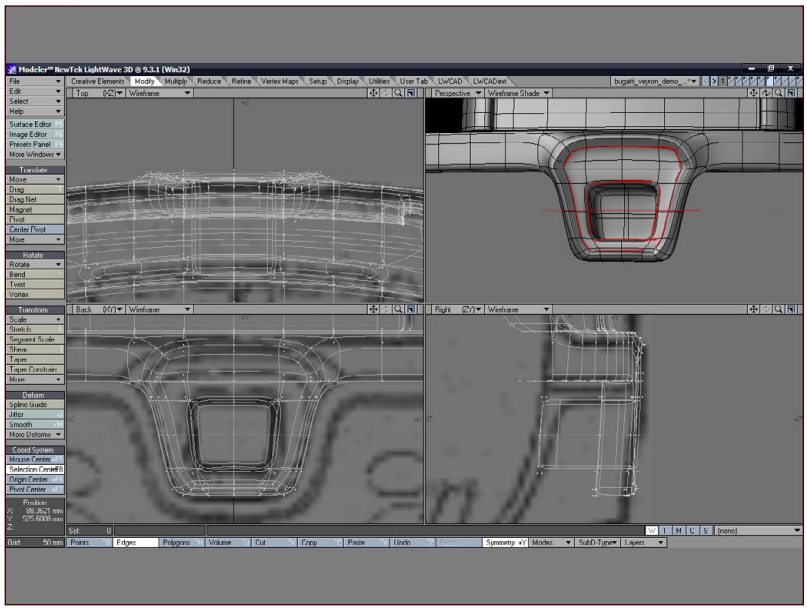


Fig 65

Select the polygon band, like in the image, then extend and move it out a little. Rearrange the points so they make a more rounded shape (**Fig.65**).

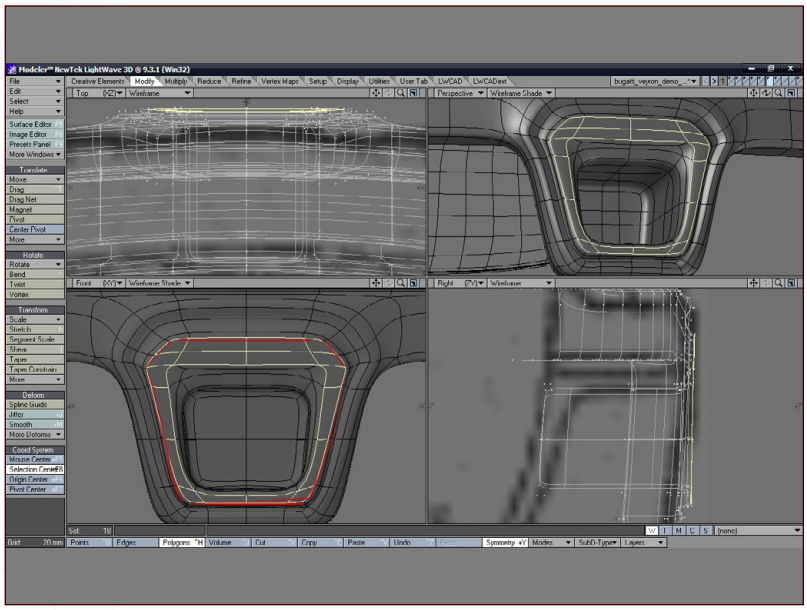
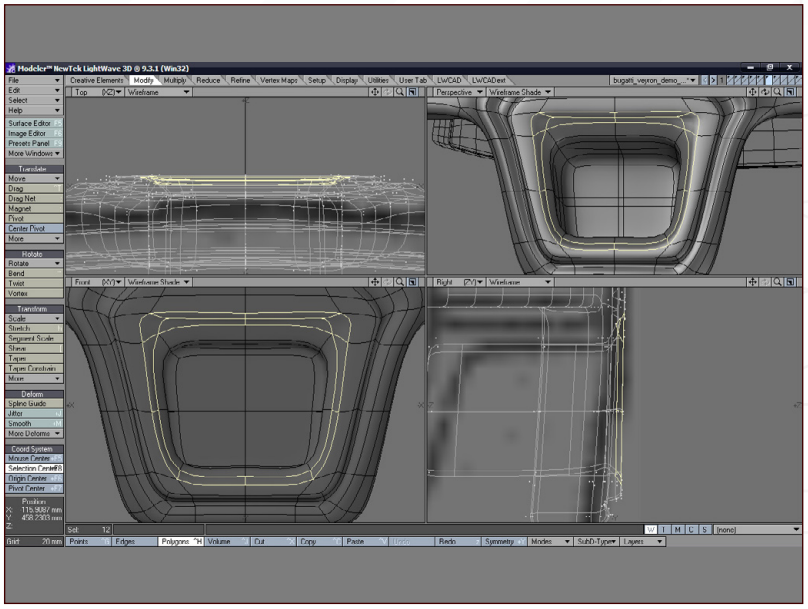


Fig 66

Use the drag tool to rearrange points to get a more square shape in the middle. You might want to add a cut, like in the image (**Fig.66**).

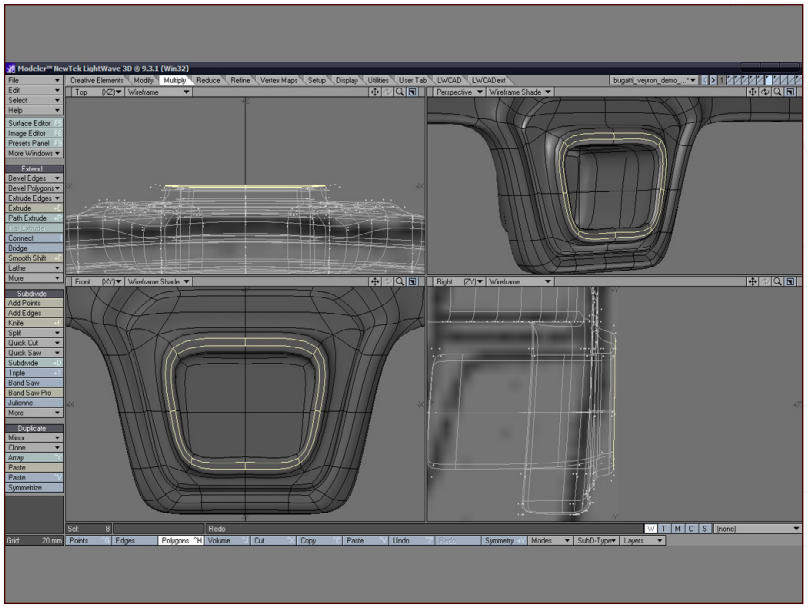
Select polygons marked in the image, then extend them and move them out (**Fig.67**).

Fig 67



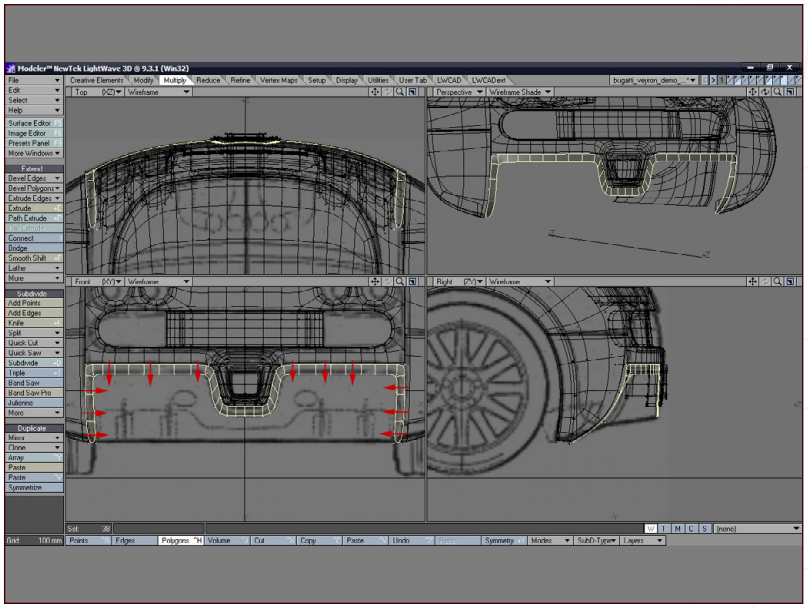
Delete the marked polygons and weld the points to remove the gaps (**Fig.68**).

Fig 68



Select the marked polygons then extend and move them out again – twice! (**Fig.69**).

Fig 69



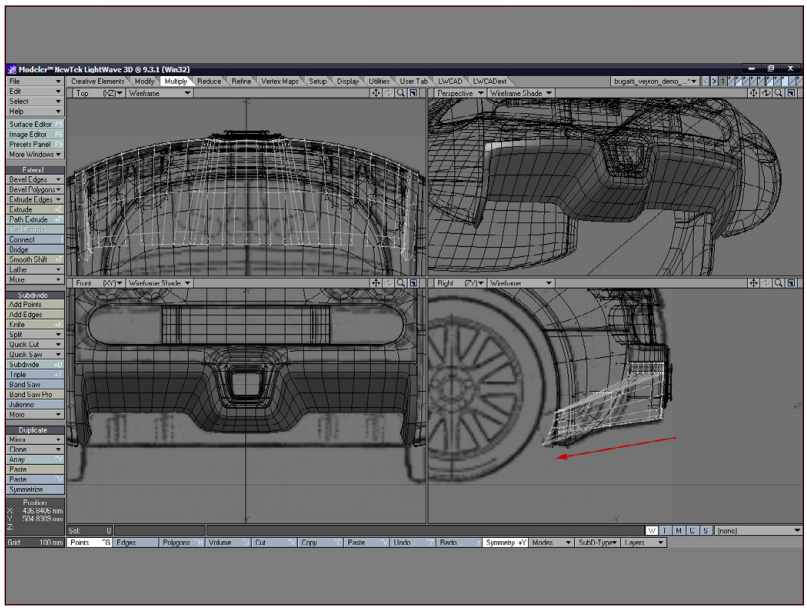


Fig 70

Select the bottom and side points and extend them down (**Fig.70**).

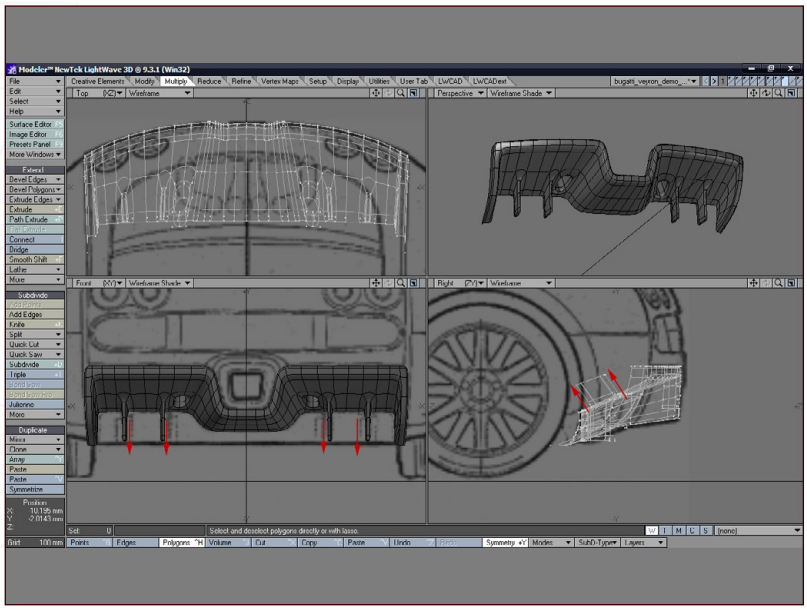


Fig 71

Extend again and move them all the way inside. Add 3 cuts to these newly made polygons: two in the corners and one in the middle (**Fig.71**).

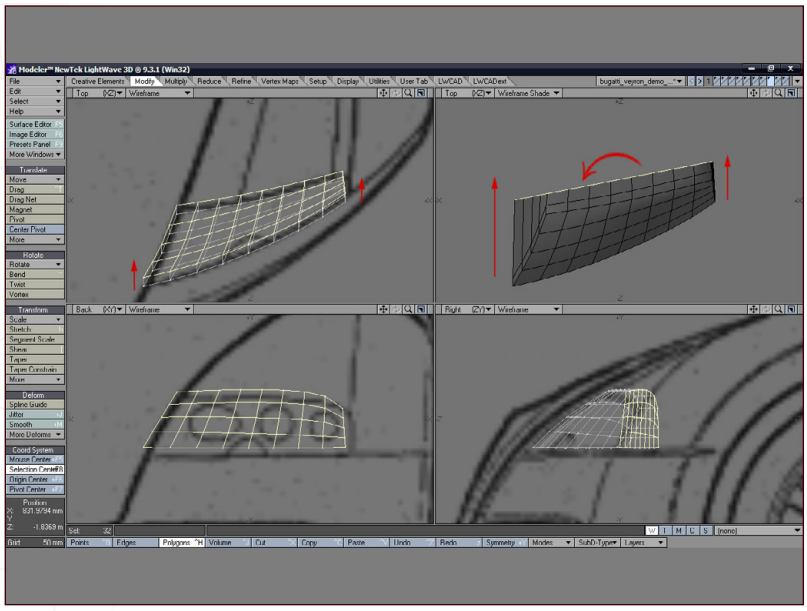
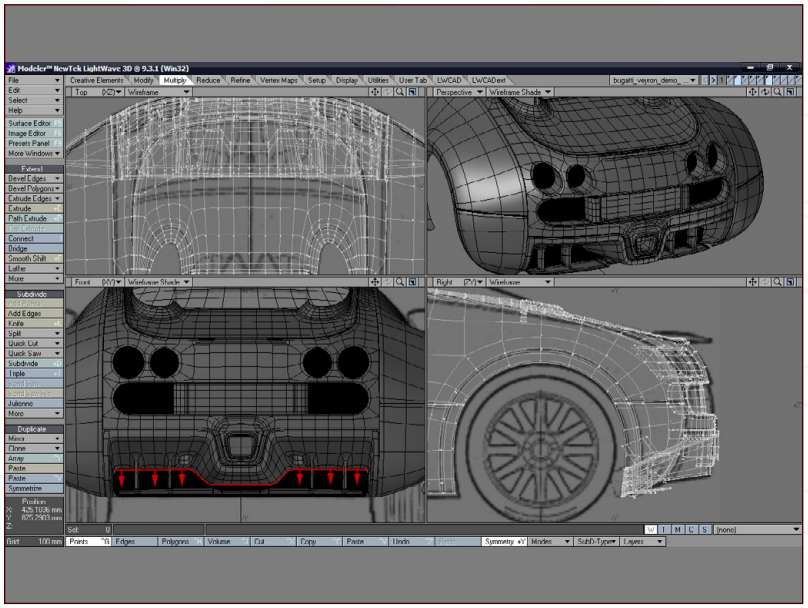


Fig 72

To make the hole and flaps, select the polygons and extend them to move them up and down (**Fig.72**).

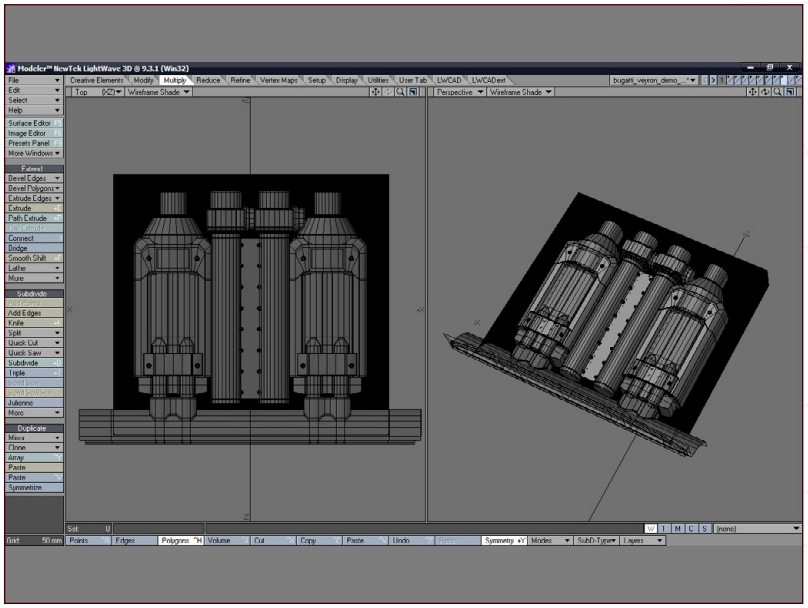
Outline the shape of the bottom wing and extrude it down to add thickness (**Fig.73**).

Fig 73



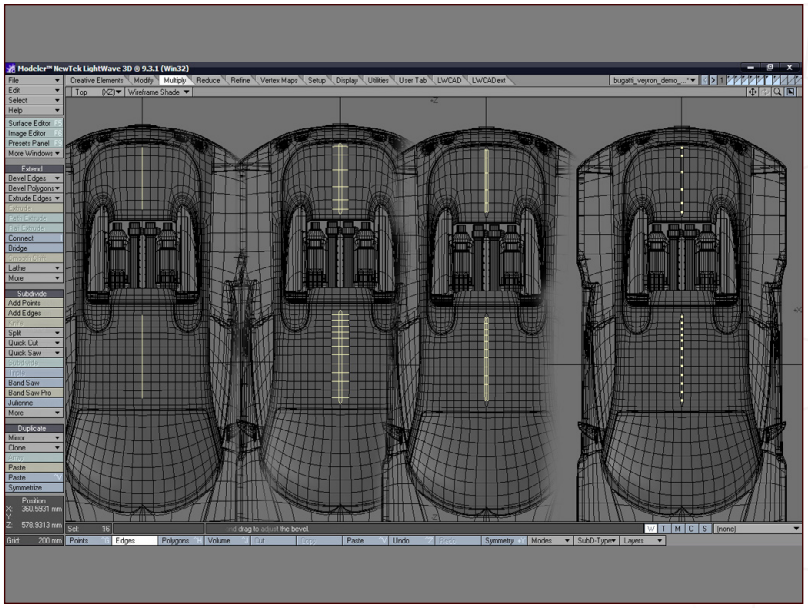
Copy the finished part where the back part of the car is. Select the bottom row of points (marked red in the image) and extend it down to make the black inner polygons (**Fig.74**).

Fig 74



In order to gain 1001 horse power, Bugatti engineers took two V8 engines and combined them into a W16 engine. Rather than going into detail about how to make every bit of it, I've supplied you with an image of a finished engine. Start with the simple cylinder and extend it down and to the sides. This part of the car is rarely seen so there is no need to detail it too much. The main thing to take care of is that there are two of the same structures mirrored next to each other (**Fig.75**).

Fig 75



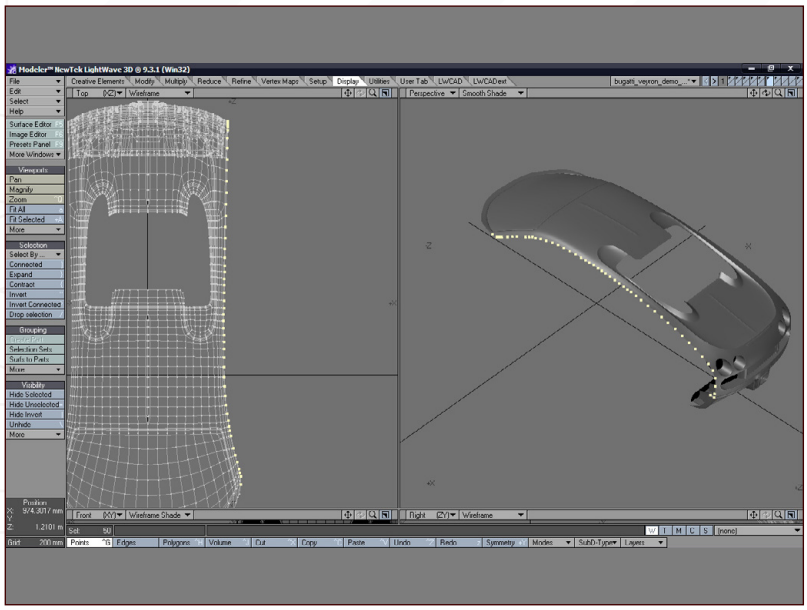


Fig 76

Select the edges on the central part of the roof and trunk. Use Edge Bevel with small amount (3-5mm). Contract the edge selection and convert the selection to polygons. Hit “L” to split polygons in half and switch to Point Selection mode. Move these points upwards for about 5mm (**Fig.76**).

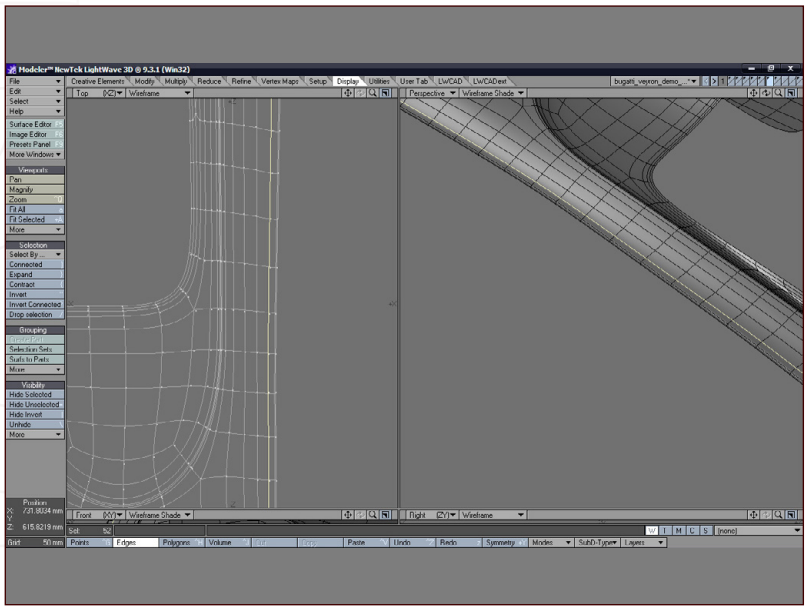


Fig 77

Select the side points of the roof part. Extend them once and move them out for about 1cm. Extend them once again and move them down for some 2mm (**Fig.77**).

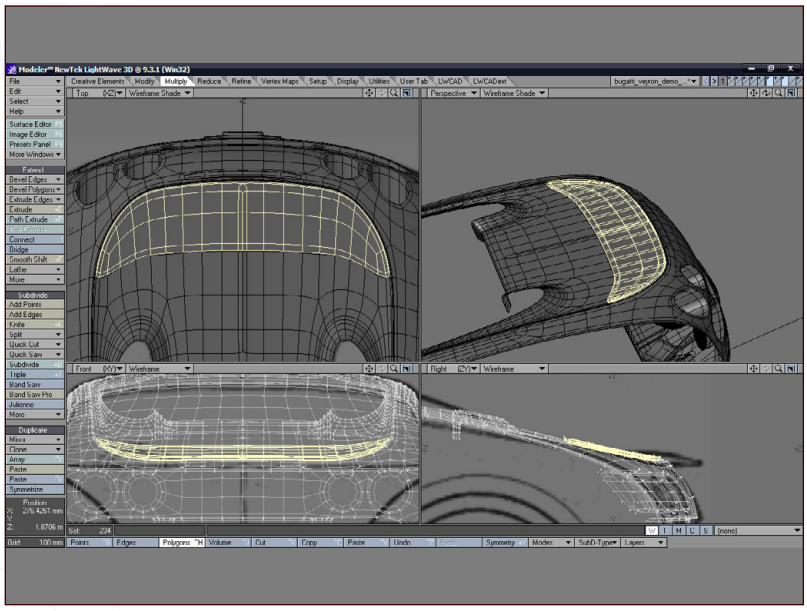
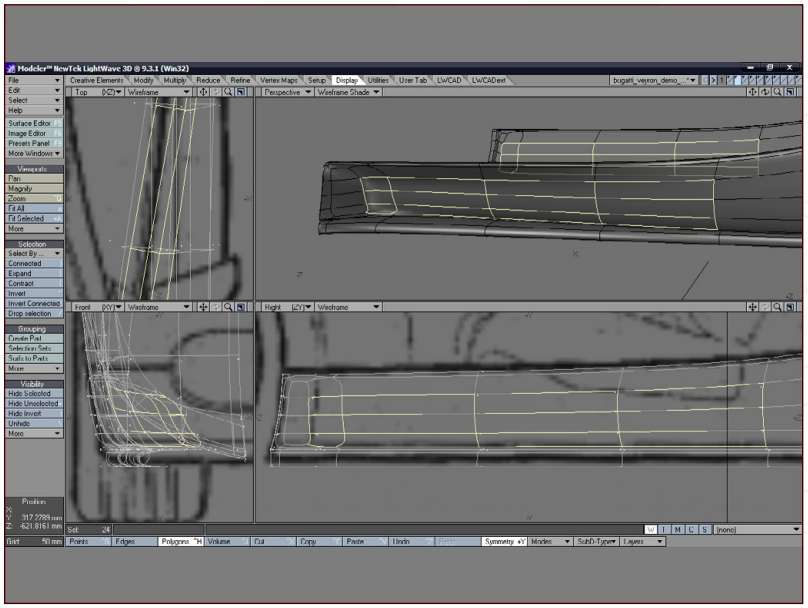


Fig 78

Select the 3rd edge from the side and apply Edge Bevel with a small value (3-5mm). Contract the selection of the edges and convert the selection to polygons. Hit “L” to split them and to switch to Point selection mode. Move the points down a little to make a seam (**Fig.78**).

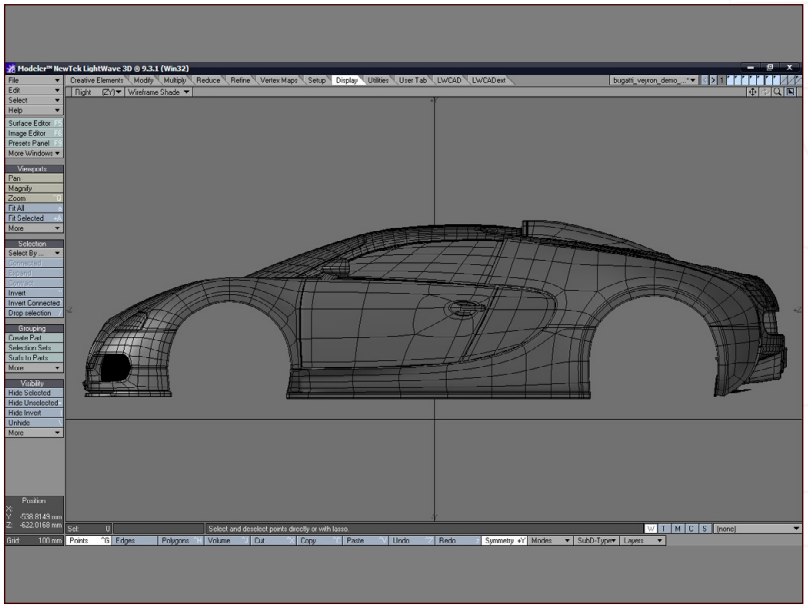
Copy the rear spoiler polygons to the new layer. Flip the polygons and extrude them up for some 10-12mm, and then BandSaw the edges so they are sharper (**Fig.79**).

Fig 79

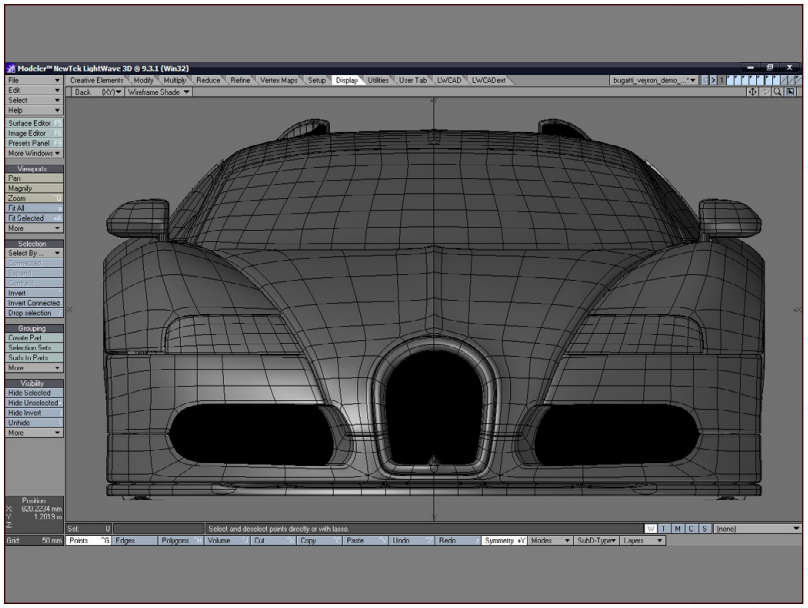


Select the bottom row of points then extend them and move them down slightly. Make a seam, similar to the one in **Fig.77**. Select the polygons shown in the image and rotate them inwards (**Fig.80**).

Fig 80



This concludes Part 3 of Bugatti Veyron tutorial series. Feel free to go around the model and tweak the minor details, meeting ends and such! In the next part we are going to build tyres and rims, as well as some details like fuel caps, logotypes and such.



BUGATTI VEYRON

PART 3 - LIGHTS, RADIATOR GRILL & VENTS

Tutorial by:
VOJISLAV MILANOVIC
For more from this artist visit:
http://www.vojislavmilanovic.com/
Or contact them:
vojo@teol.net

Bugatti Veyron
car modelling series

lightwave

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 031 March 2008
LIGHTS, RADIATOR GRILL & VENTS

Issue 032 April 2008
WHEELS, TYRES & RIMS

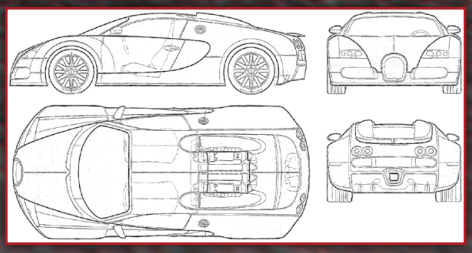
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

ENJOY ...

Blueprints available here:



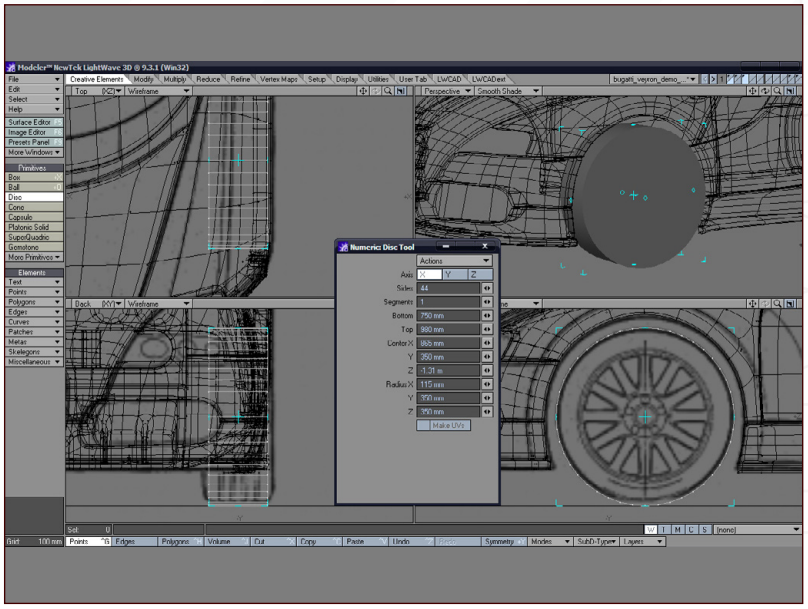
www.the-blueprints.com

BUGATTI VEYRON
PART 4 - WHEELS, TYRES & RIMS

Hello again and welcome to the fourth instalment of the Bugatti Veyron tutorial series. In this part we are going to make tyres and rims, as well as some minor outer details on the car body. We are therefore going to finish off the exterior modelling of the car. So, let's begin!

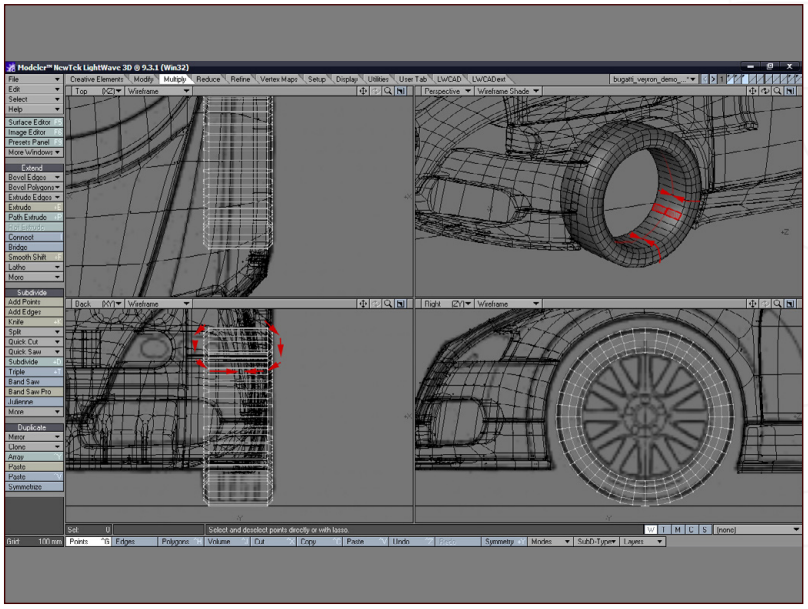
Use the Disc tool to make a disc around the overall tyre. Fig01 shows numerical details, we need a tyre 70cm tall with 44 segments. It would be handy to write down the exact centre of the tyre as we are going to need it later. In this case it's X=865mm, Y=350mm, Z=-1.31m (**Fig.01**).

Fig 01



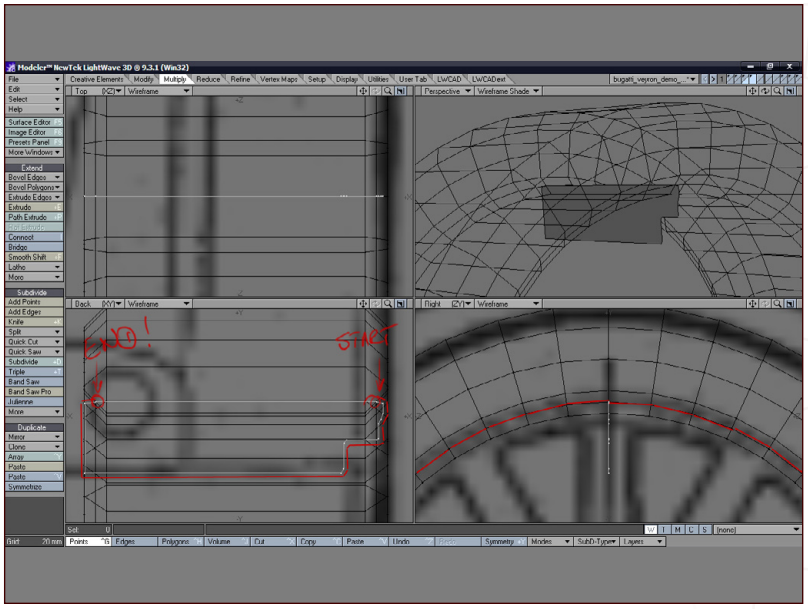
Select the outer discs (44-sided ones) and do a series of extensions to make a tyre shape, like in the image. When you come to the inner side, scale both discs to zero on the X-axis, delete them and merge the points. Select two polygons, like in the image, and use Bandglue to remove any unnecessary inner polygons (**Fig.02**).

Fig 02



Use the Bandsaw tool to divide polygons in half, as marked in the side viewport in the image. Use the Pen tool to make a shape, like in the front viewport. Make sure that this shape is in the middle of the tyre! (**Fig.03**)

Fig 03



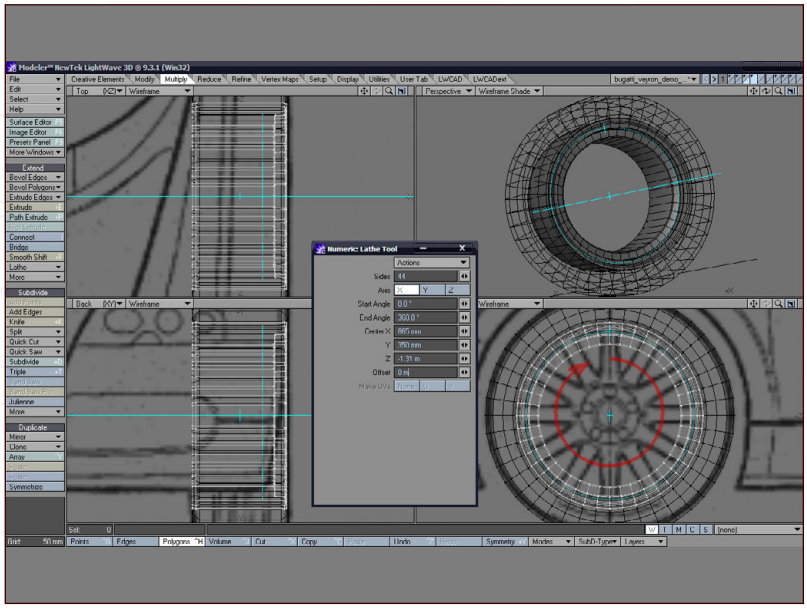


Fig 04

Use the Lathe tool on the X-axis with 44 sides. Copy the centre info from the data in Step 01! (**Fig.04**)

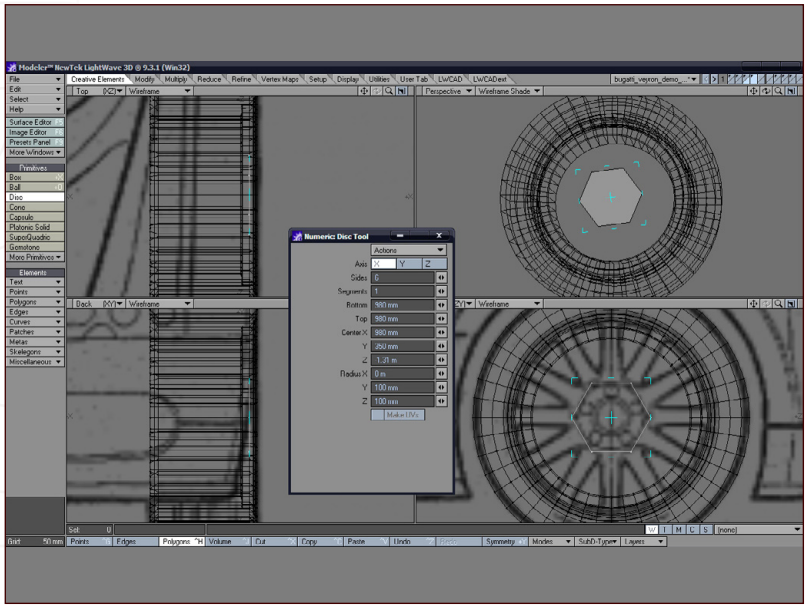


Fig 05

Use the Disc tool again, with the same centre but just a bit smaller and with 6 sides. Extrude the polygon a bit and move it inside the rim (**Fig.05**).

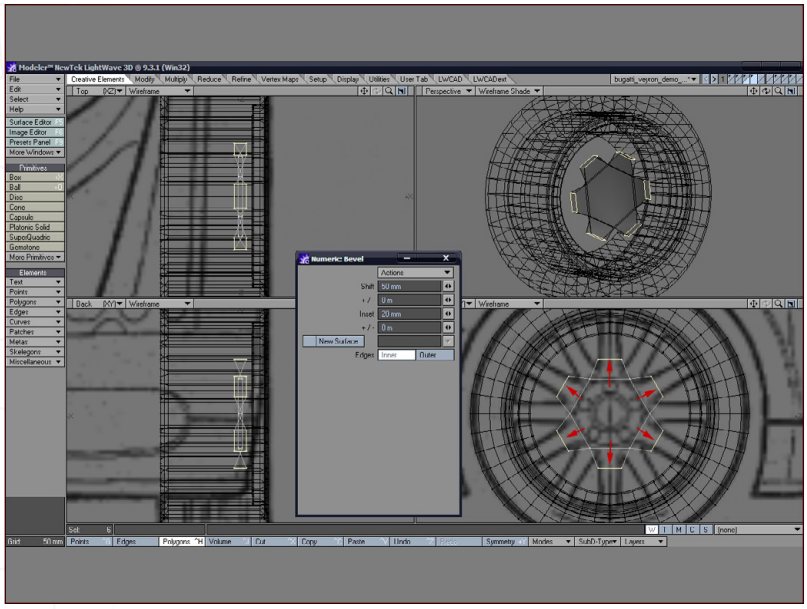
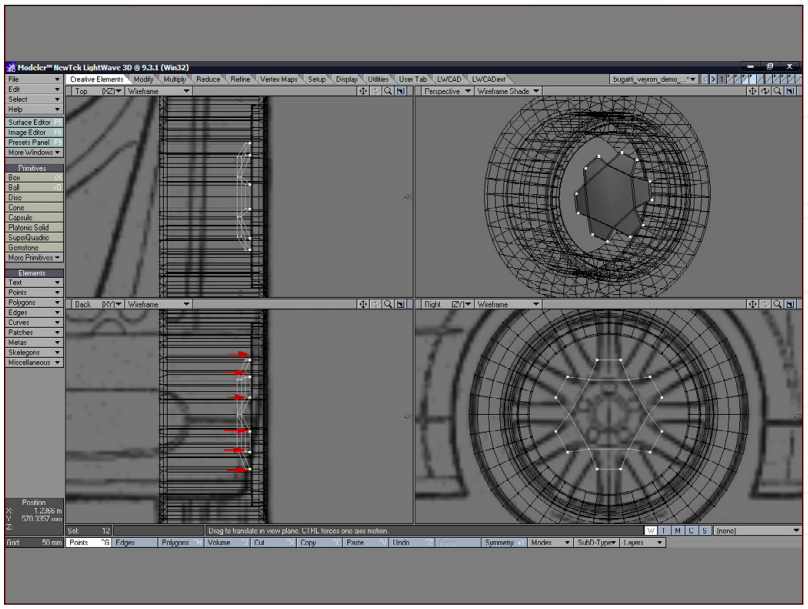


Fig 06

Select the outer polygons and bevel them up with a small inset (**Fig.06**).

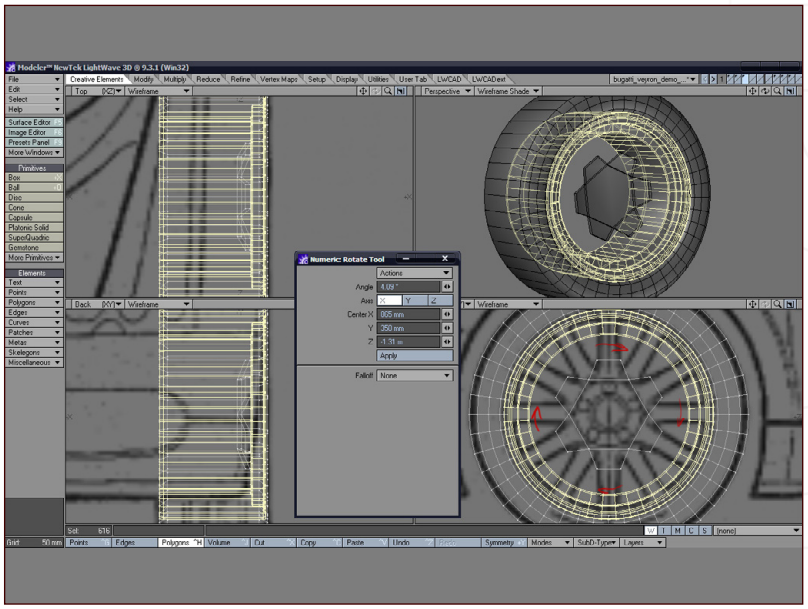
Bevelling such small polygons makes the end points go through, so we need to fix this by moving points to the right until the polygons look correct again (**Fig.07**).

Fig 07



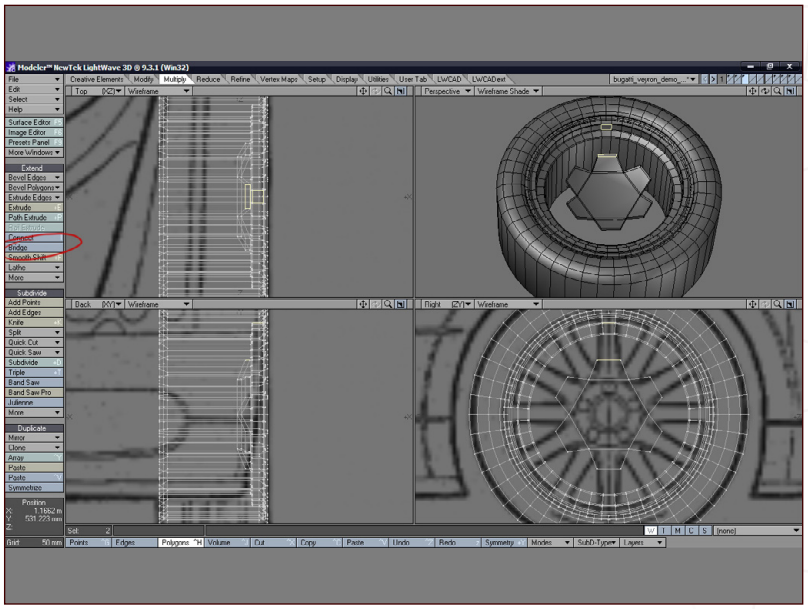
Select the rim and tyre polygons and rotate them in the side viewport for 4.06 degrees. To do this, you'll need to pick to rotation tool – "Y" – and rotate just a little in the side viewport (make sure that Action Center is set to Selection Shift + F8). Undo the action and hit "N" for numerical. This will set the centre and axis right. Enter 360/88 for the value. And that's how we achieve 4.06 degrees! (**Fig.08**)

Fig 08



Select two polygons, like in the image, and activate the Bridge tool to connect them (**Fig.09**).

Fig 09



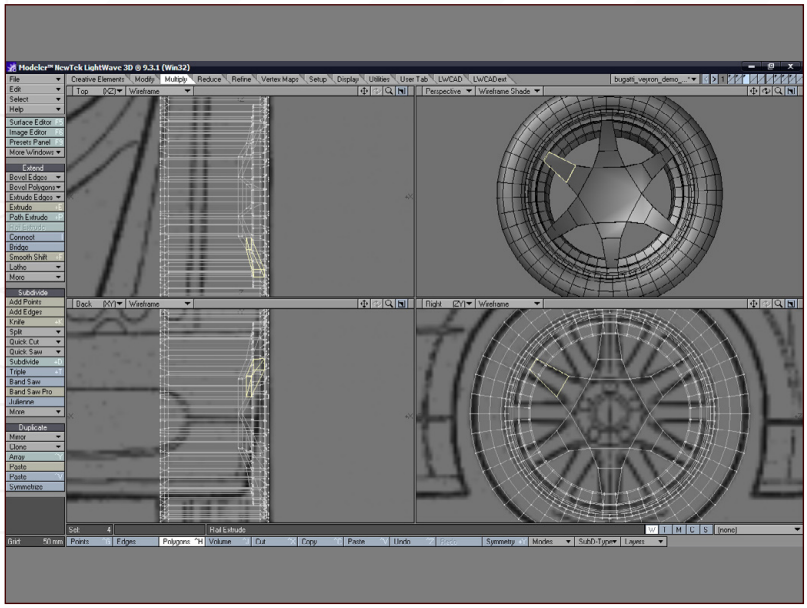


Fig 10

Do the same for the other five (**Fig.10**).

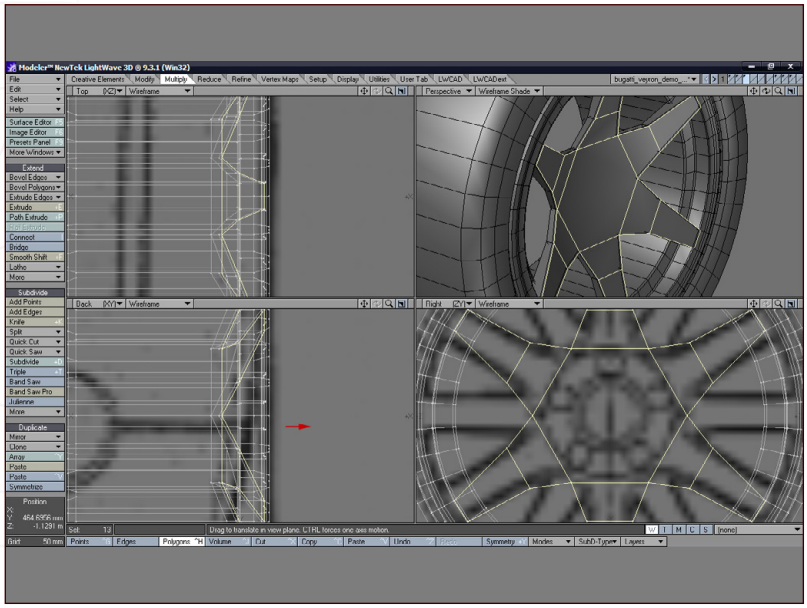


Fig 11

Select the front polygons, extend them once, and then move them out a touch (**Fig.11**).

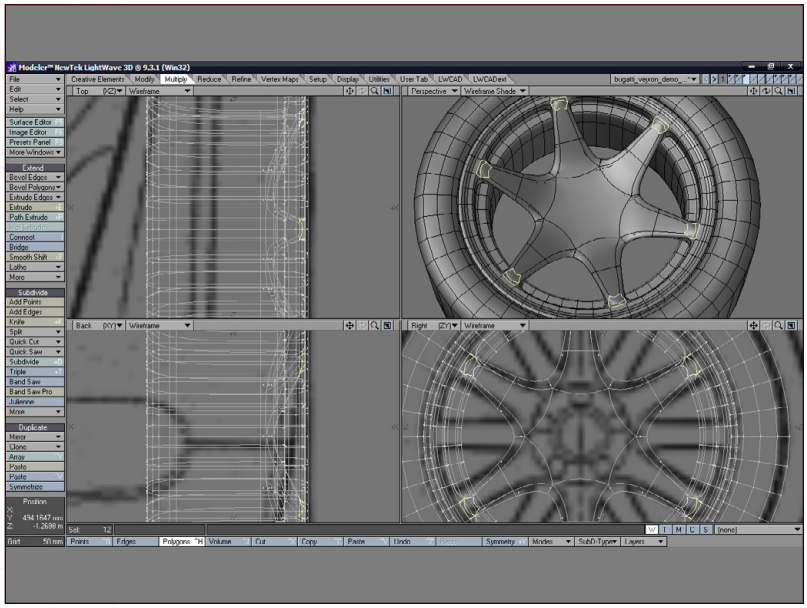
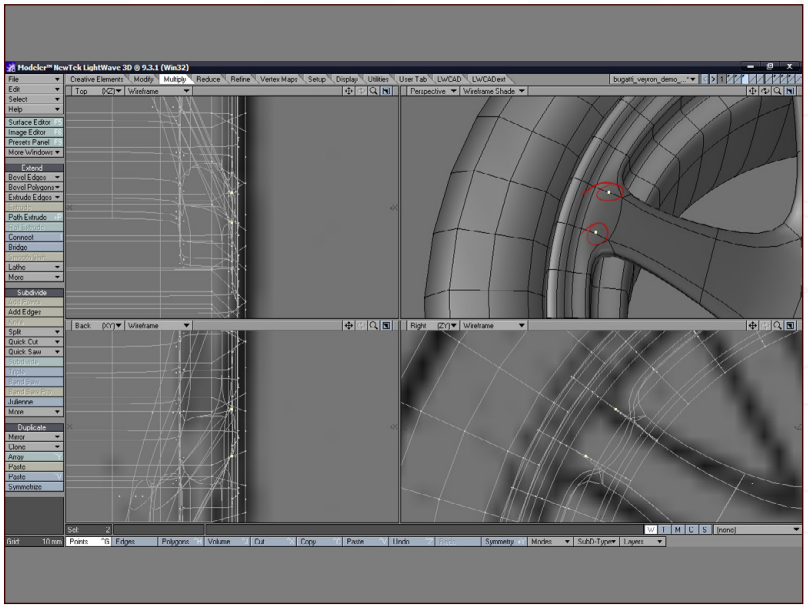


Fig 12

Turn Subpatches on and delete the marked polygons (**Fig.12**).

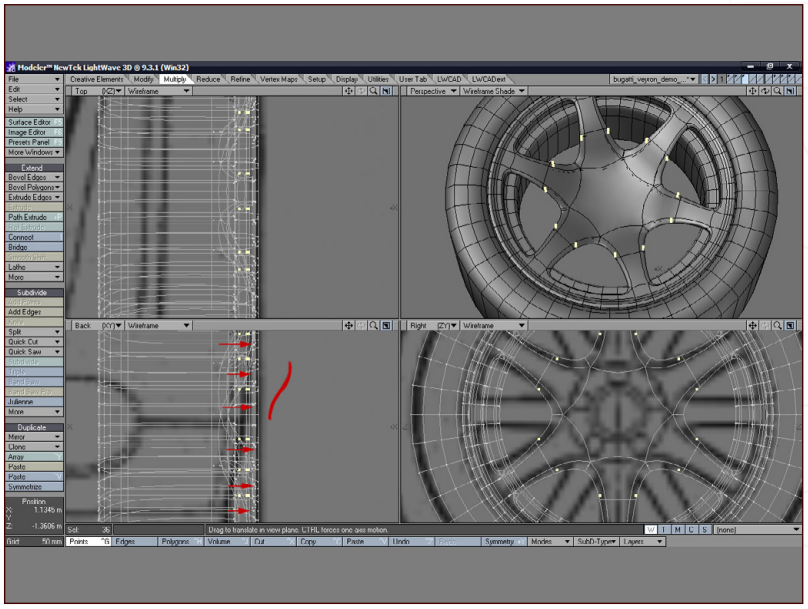
Weld the two-point pairs to remove the gap. Do the same on the other five sides (**Fig.13**).

Fig 13



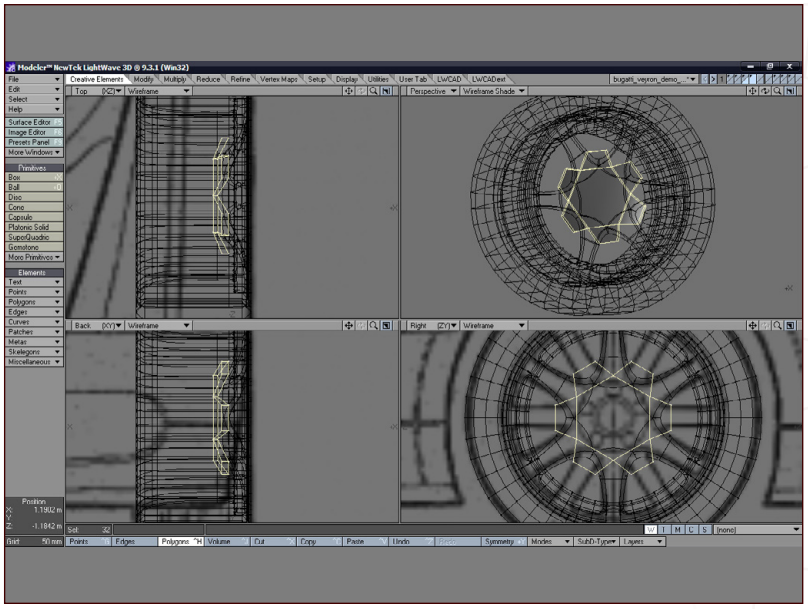
Select the shown points and move them out a little to create a more curvaceous shape (**Fig.14**).

Fig 14



Make another 6-sided disc and rotate it for 30 degrees. Extrude it again to make it thicker and bevel it, like in *Fig.06*. Place it just behind the one we made earlier (**Fig.15**).

Fig 15



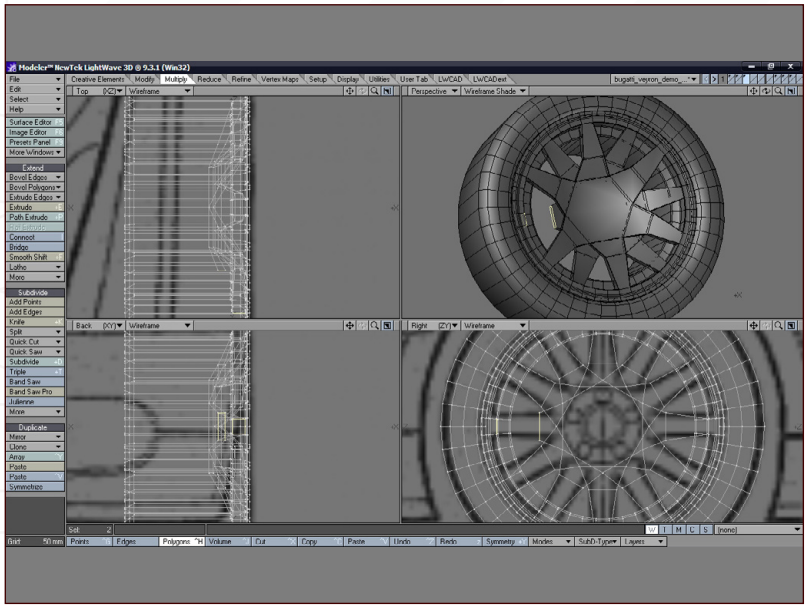


Fig 16

Copy this shape where the rim is and bridge the end polygons, as shown in Steps 09 and 10 (**Fig.16**).

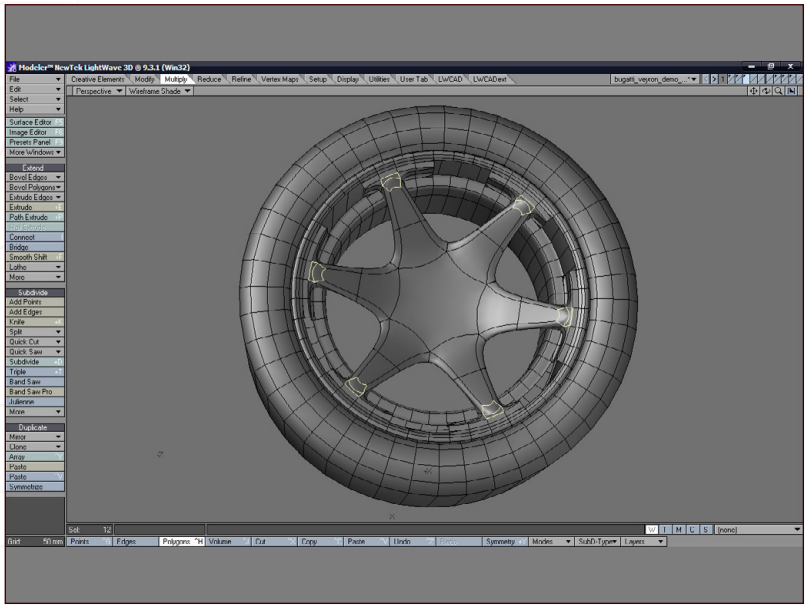


Fig 17

Again, select the front polygons then extend and move them (like in **Fig.11**). Delete the marked polygons and weld the point pairs (**Fig.17**).

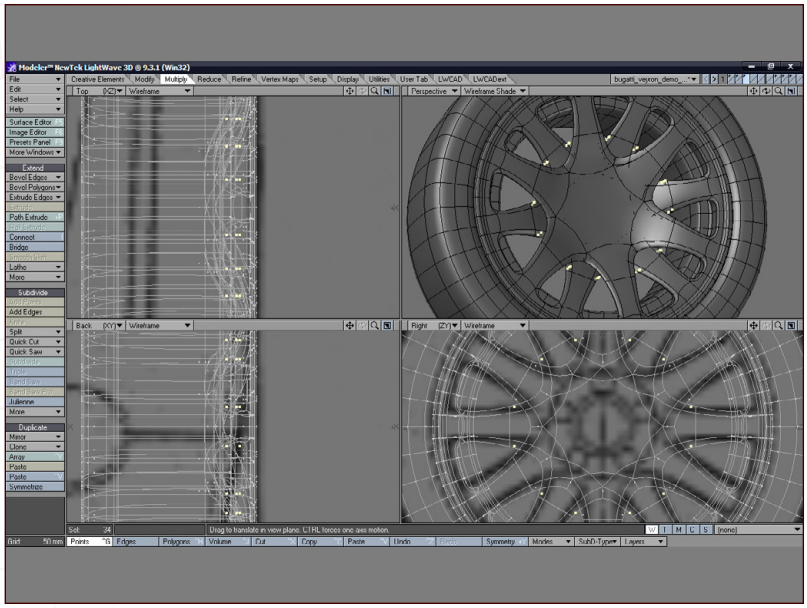
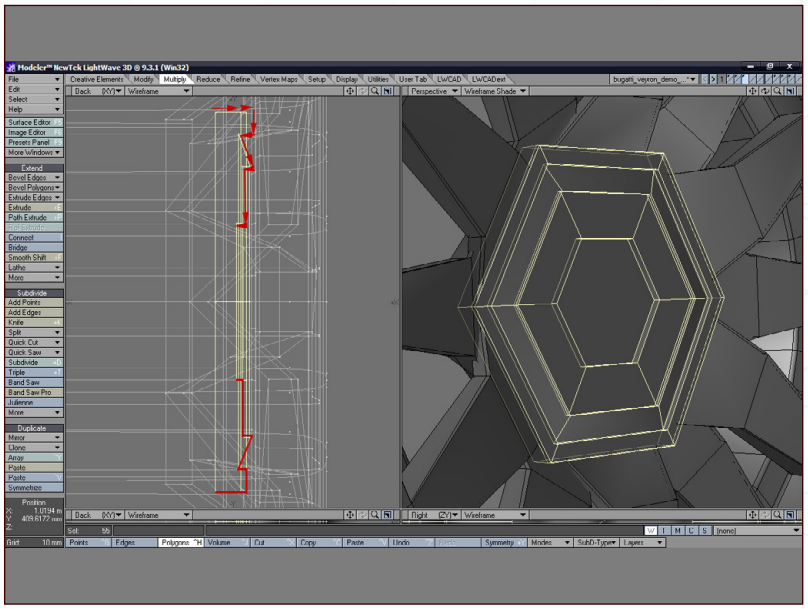


Fig 18

Repeat **Fig.14** to reshape the bits (**Fig.18**).

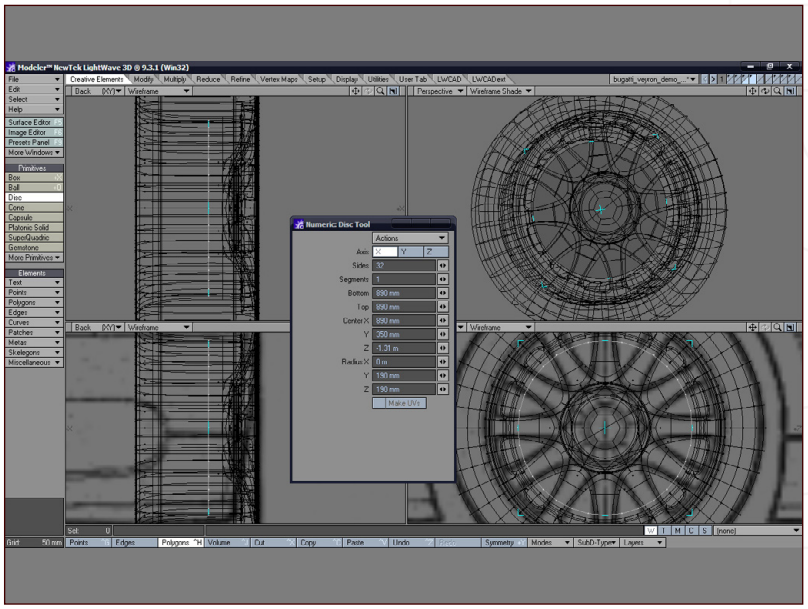
Select the middle polygon and extend it to make a centre part (**Fig.19**).

Fig 19



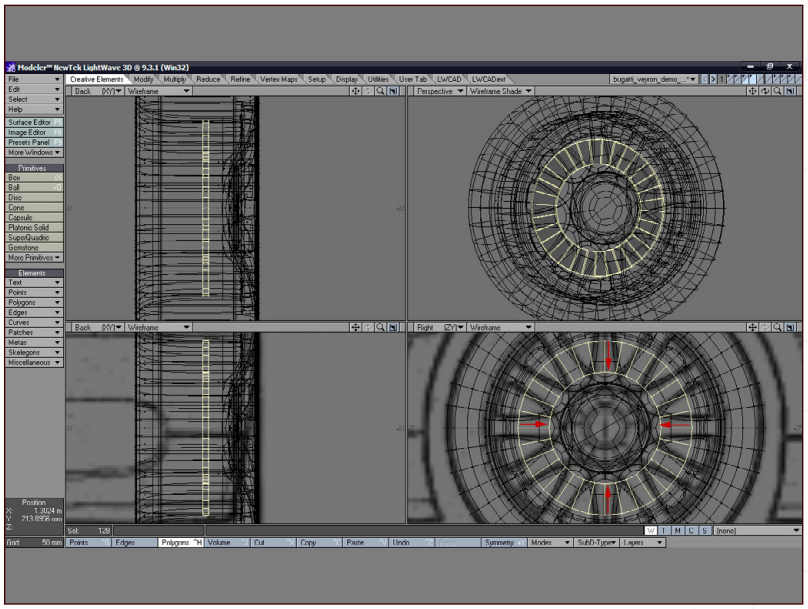
Make another disc with the same centre, like the ones before (**Fig.20**).

Fig 20



Bevel the disc inside, delete it and extrude the polygons to make them thicker (**Fig.21**).

Fig 21



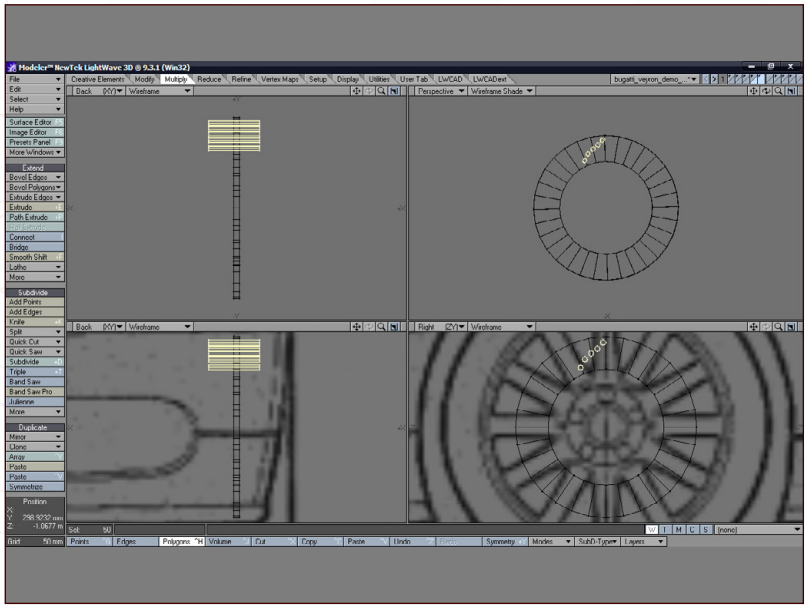


Fig 22

Make a group of 5 cylinders, as shown in the image (**Fig.22**).

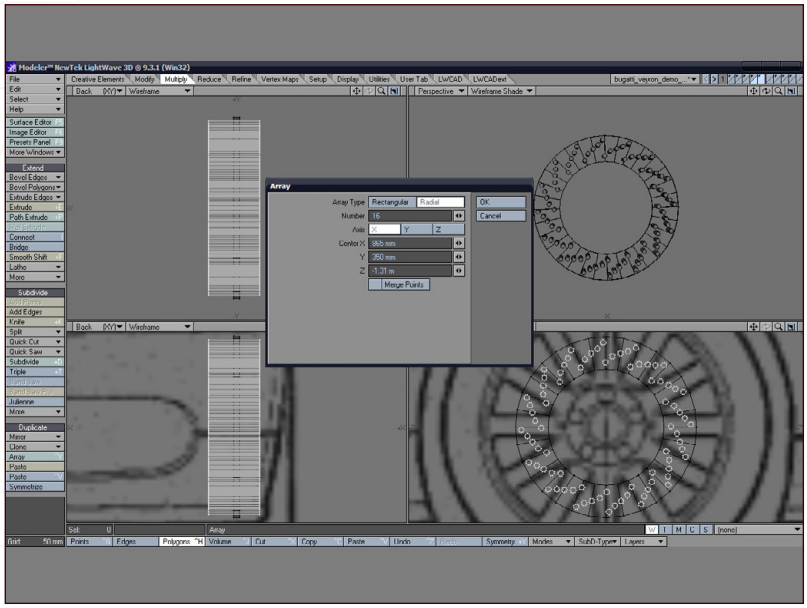


Fig 23

Use the Array tool to make 16 radial clones. For the centre values, enter the same ones we used in **Fig.01** (**Fig.23**).

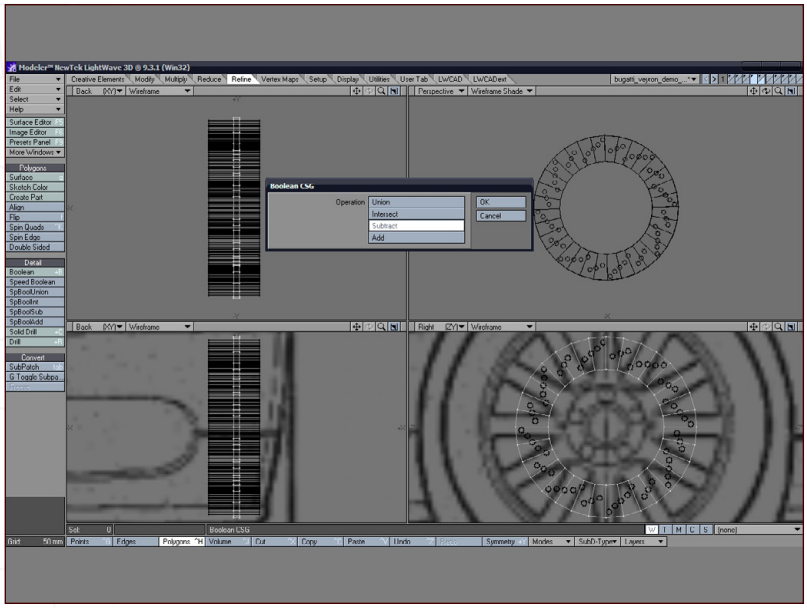
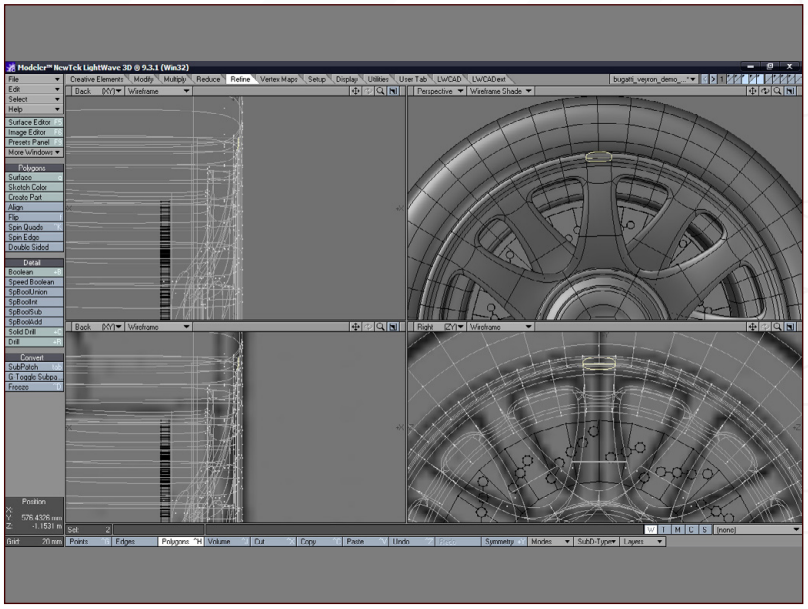


Fig 24

Delete the end cylinders of every second group and Boolean the main disc to make the holes. Merge the points and we're done with the brake cylinder! (**Fig.24**)

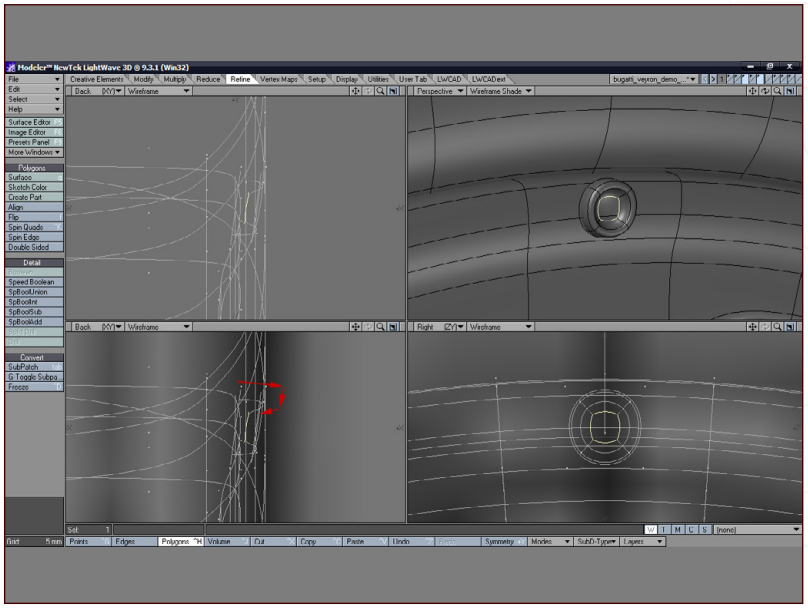
Copy the two marked polygons onto another layer (**Fig.25**).

Fig 25



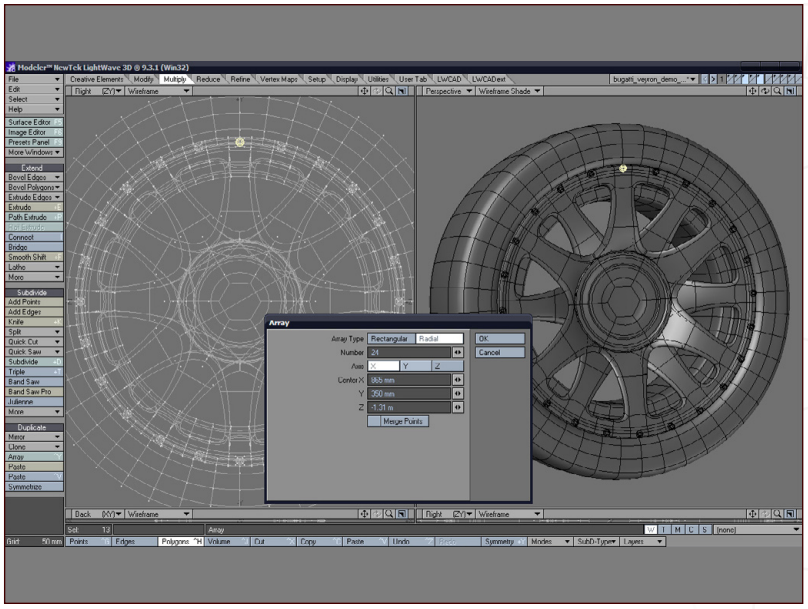
Merge them and delete the two middle points. Extend the polygon to make a bolt (**Fig.26**).

Fig 26



Use the Array settings to clone the bolts around the rim (**Fig.27**).

Fig 27



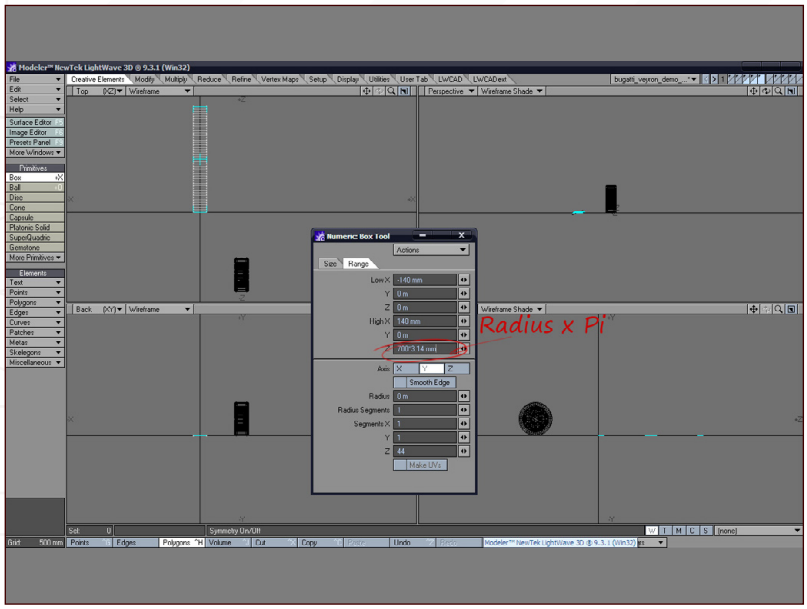


Fig 28

Make a flat box, like in the image. We already have the width of it (280mm) and the total length is the radius of the tire multiplied by the number Pi (**Fig.28**).

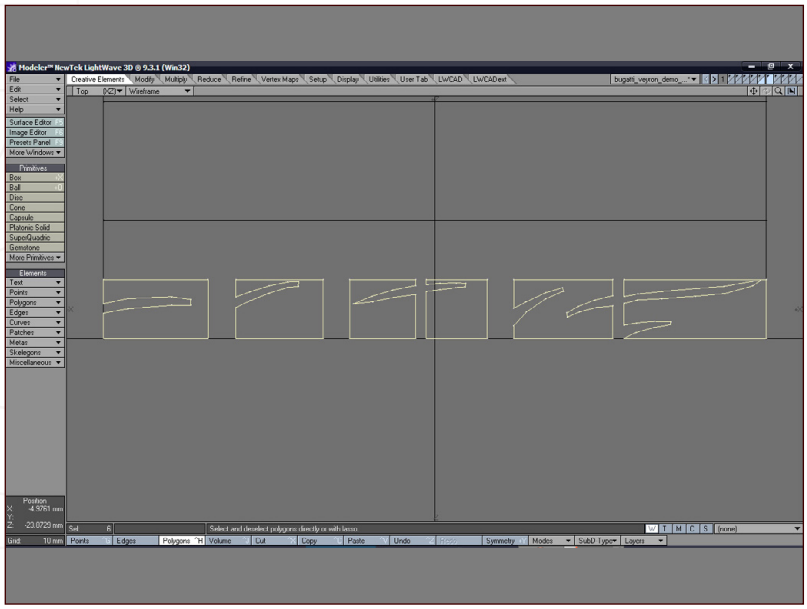


Fig 29

Outline the shape, similar to in the image. Try to use as few points as you can. The top points (+Z axis) should be placed at the total length of the box, which we made in previous step, divided by 88 (we are going to have a total of 88 segments!). You can do this by pressing Shift + V to increase the Set value requester and entering the total length divided by 88 (**Fig.29**).

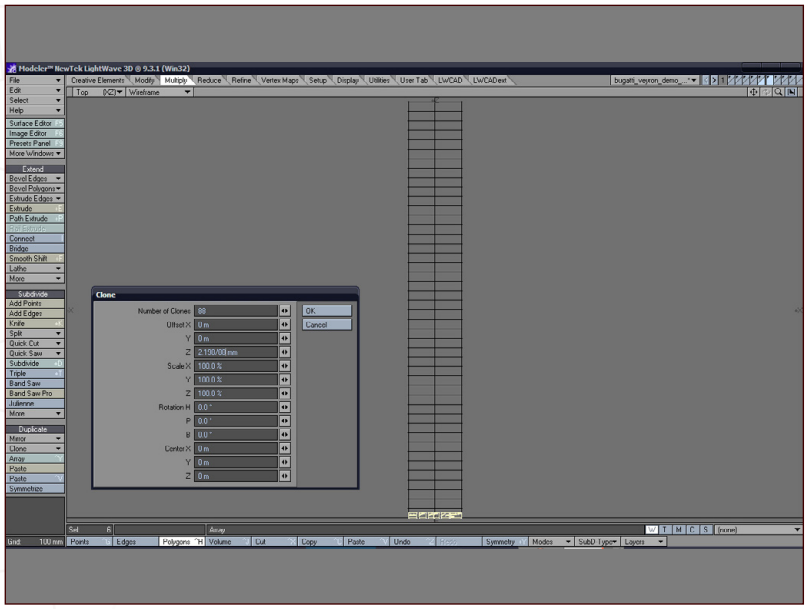
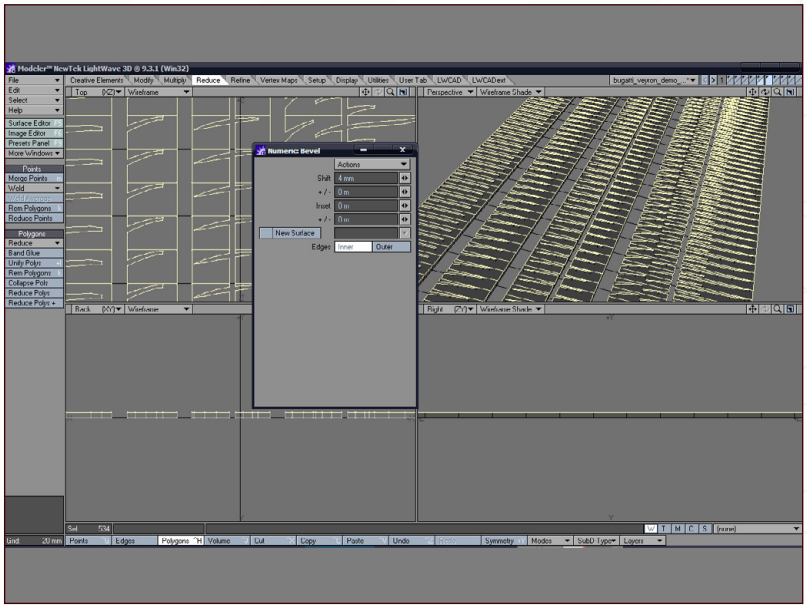


Fig 30

Use the Clone tool to clone the shape 88 times along the Z-axis. For the Z offset value use the same total length divided by 88 (**Fig.30**).

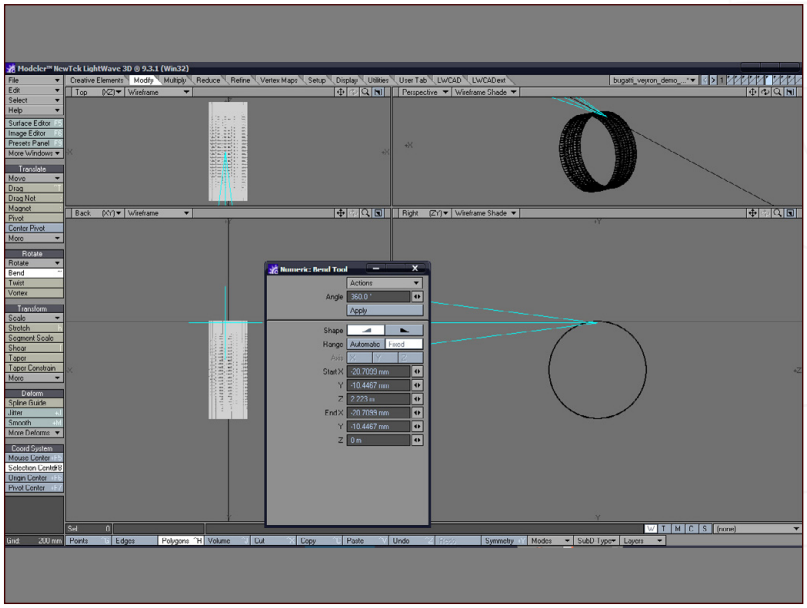
Merge the points and bevel up the polygons by 4mm (**Fig.31**).

Fig 31



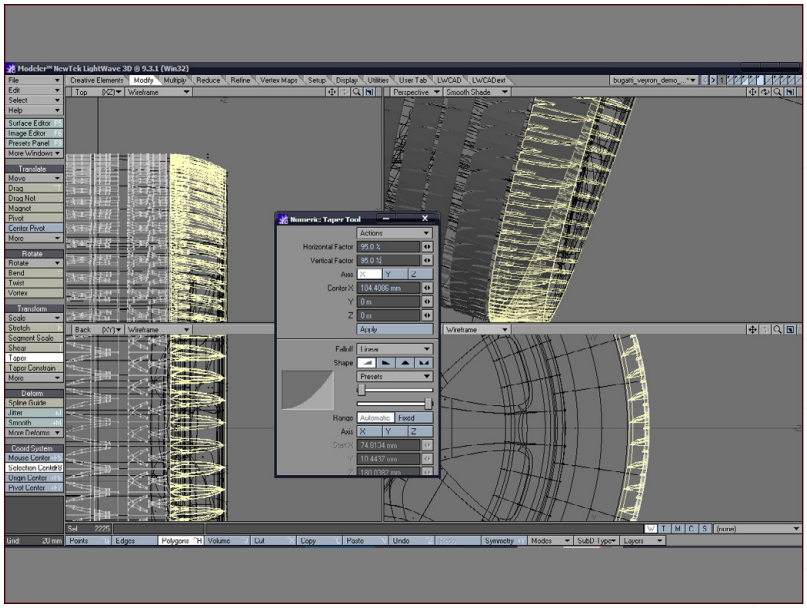
In front view, use the Bend tool to bend all polygons by 360 degrees (**Fig.32**).

Fig 32



Taper the end polygons so that they match with the back tyre (**Fig.33**).

Fig 33



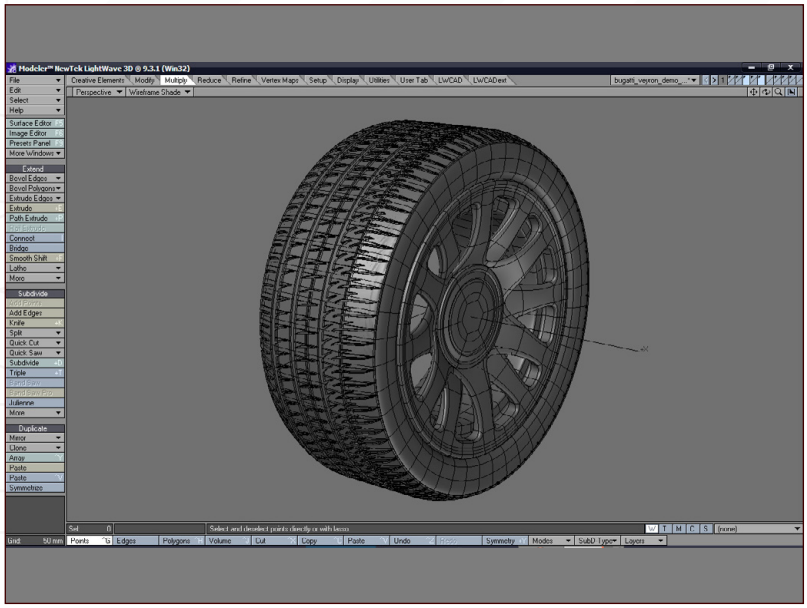


Fig 34

You may need to do some fine adjustments so that all the parts fit together! (**Fig.34**)

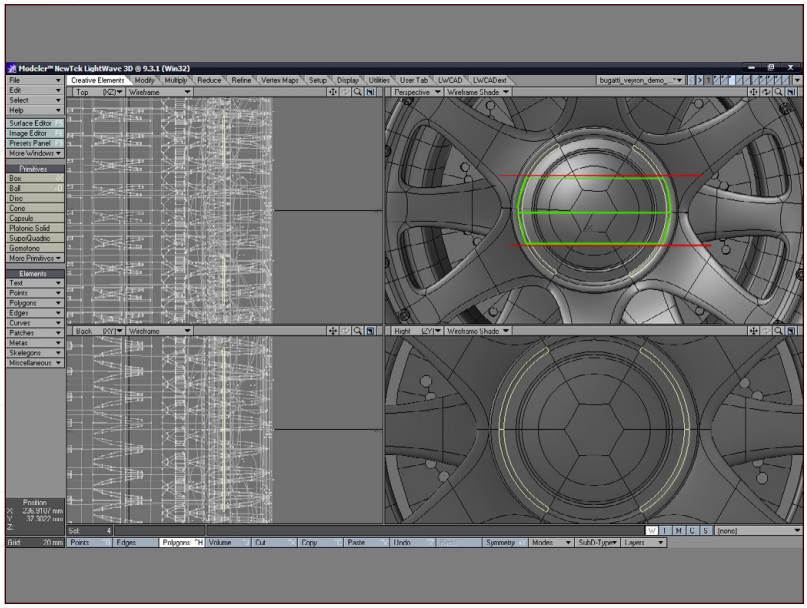


Fig 35

Select the polygons shown in the image and copy them onto another layer. Use the Knife tool to cut how the red lines show you in the image. Select the front points to make two polygons, marked green in image, and delete the rest of it (polygons going along the X-axis or inside the tyre) (**Fig.35**).

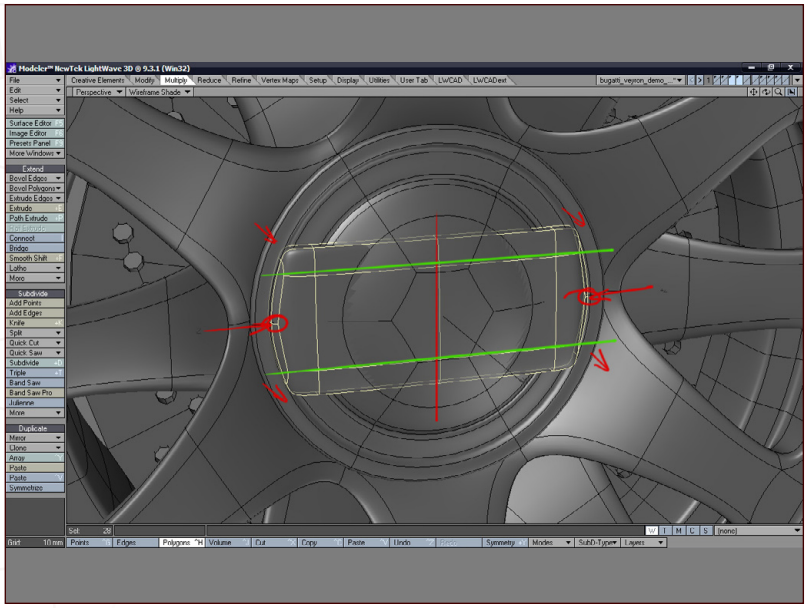
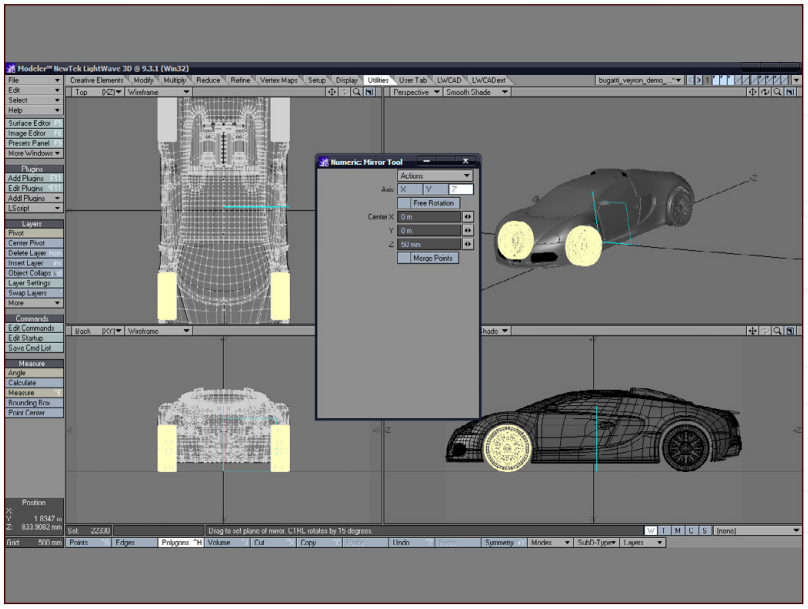


Fig 36

Cut the polygons in half where the red line is. Add two more cuts at the ends to make the shape sharper. Extend it out and move the middle points inside a fraction so they match the roundness of the rim part (**Fig.36**).

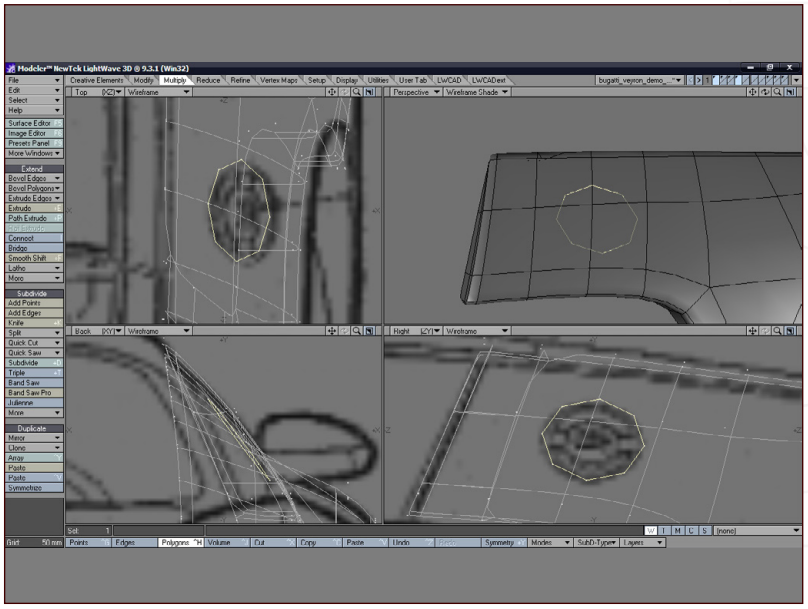
Finally, place the finished wheels to correct the positions and then mirror to the left and to the back. It's a good idea to turn the merge points off in the mirror numerical requester to avoid parts getting merged during mirroring! (**Fig.37**)

Fig 37



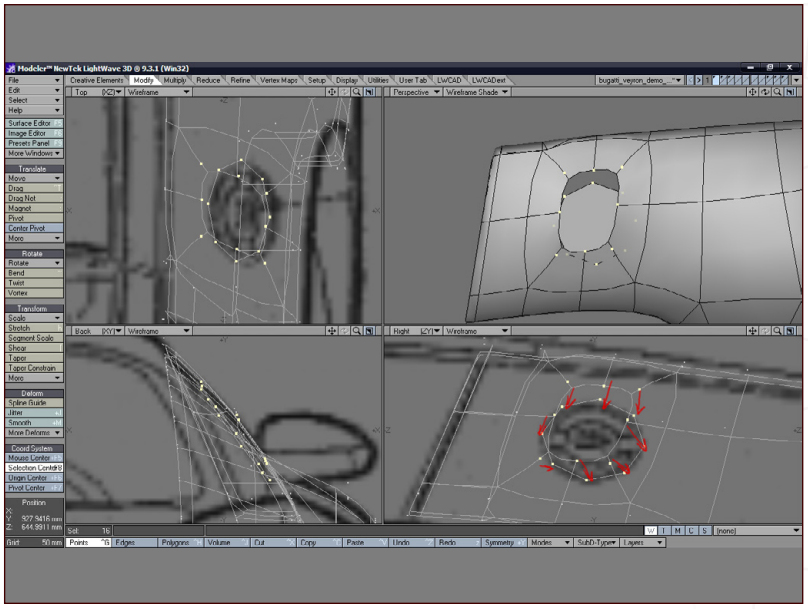
Make an 8-sided disc and place it where the fuel cap should be (**Fig.38**).

Fig 38



Select the surrounding polygons and use QuickCut to make a cut through them. Delete the inner polygons and weld points to the ones of the disc made in previous step (**Fig.39**).

Fig 39



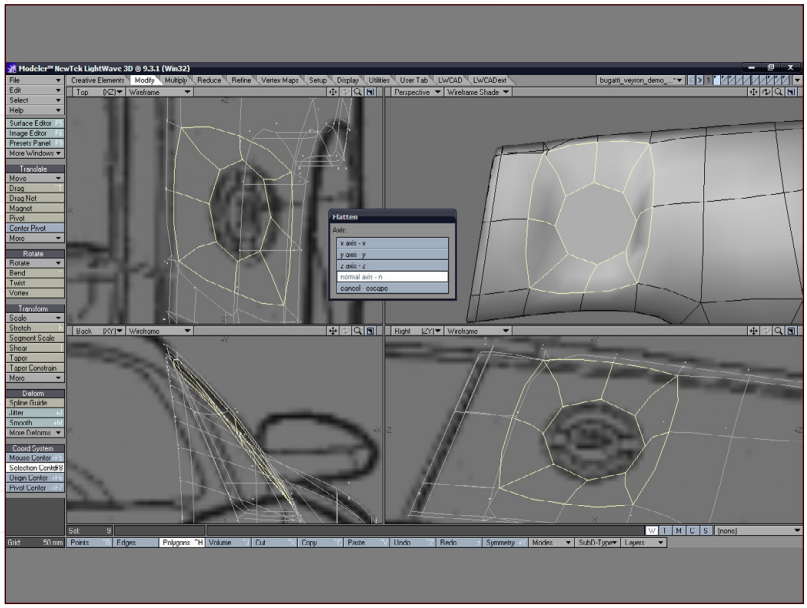


Fig 40

Select the marked polygons and flatten them using normals as the axis (**Fig.40**).

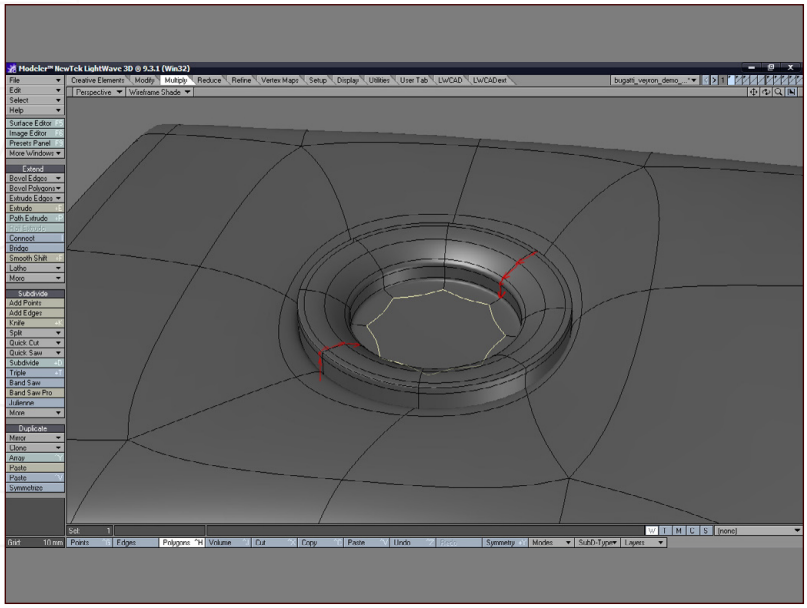


Fig 41

Make a series of extensions to make the rough shape of the cap (**Fig.41**).

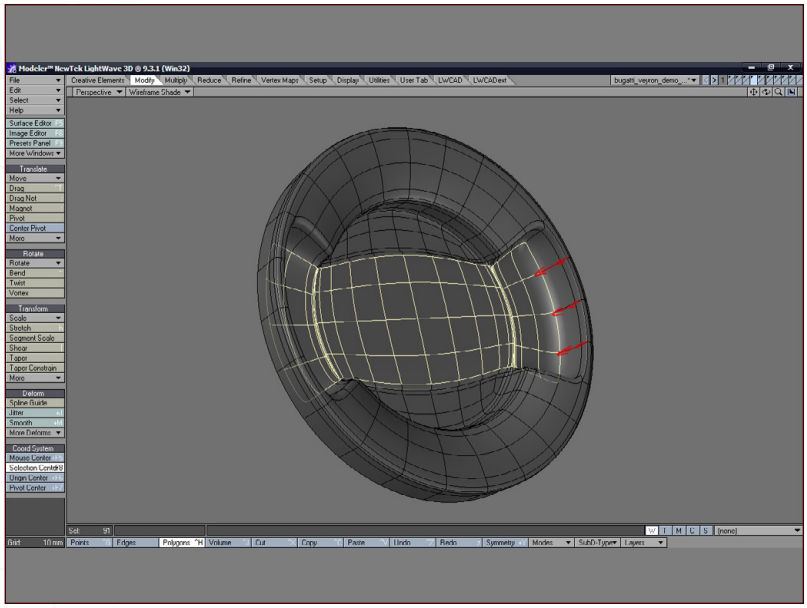
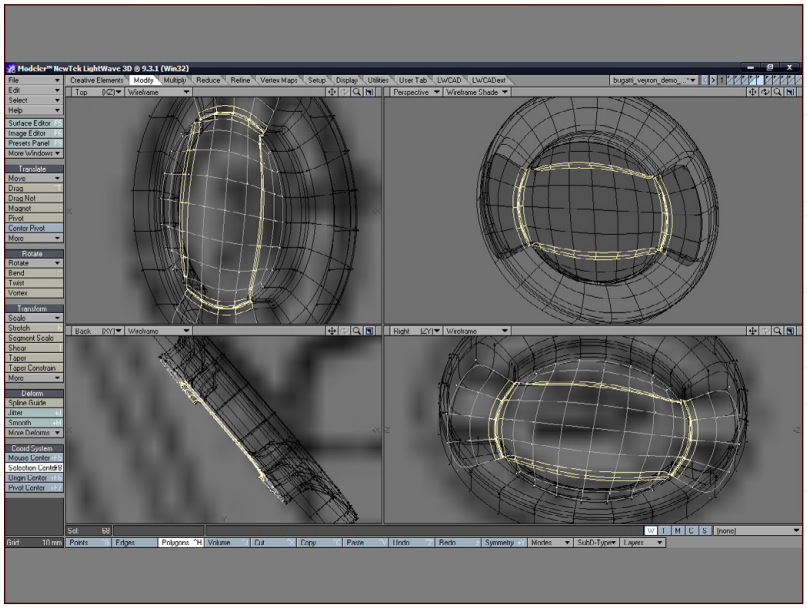


Fig 42

Move the cap into another layer and freeze (Ctrl + D) subpatches once (I used native modeller subpatches with a Subpatch division of 3 – “O” to set this in options). Select four rows of polygons, like in the image, extend them once and move them slightly inwards. Extend them again, flatten on the normals and move them more to the bottom of it (**Fig.42**).

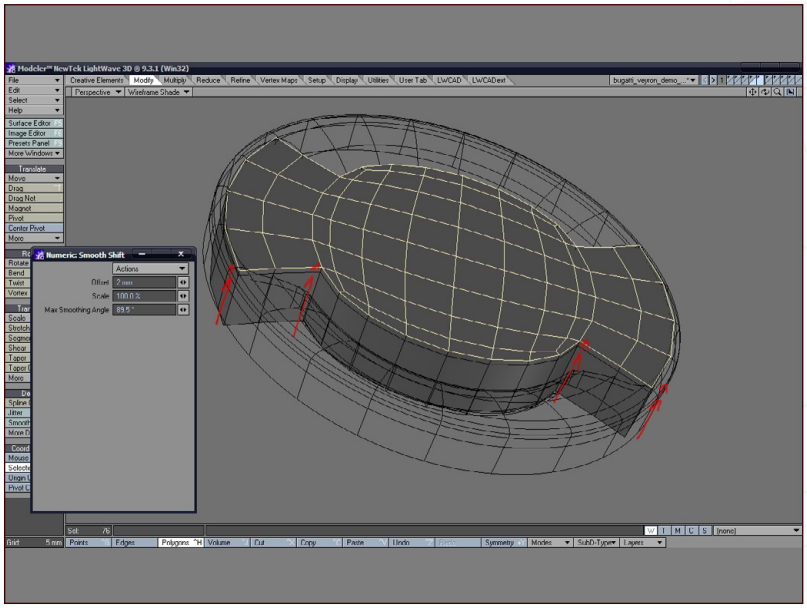
In another layer, make another copy of these polygons and delete the marked polygons as they are unnecessary. Weld the points to fill the gaps (**Fig.43**).

Fig 43



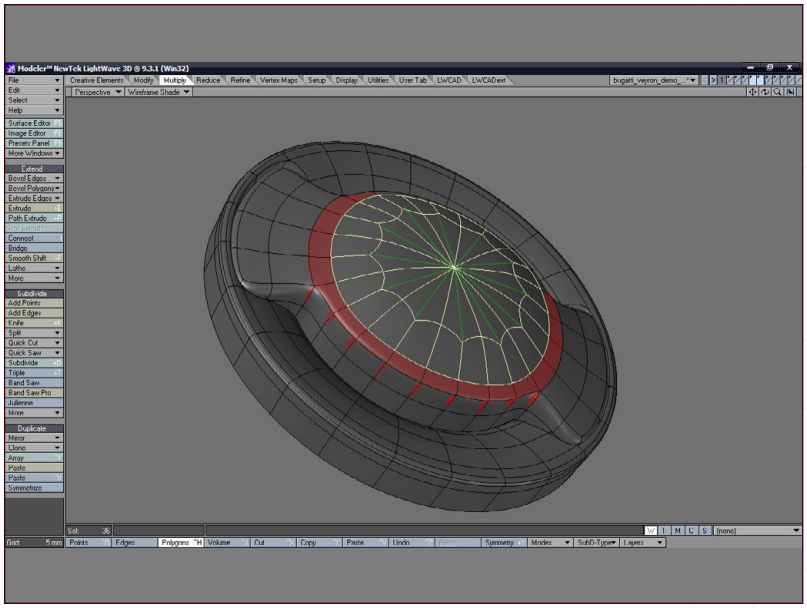
Use the Smooth shift tool to shift polygons along the normals. Do it once with settings of around 20mm, and once more with 2mm (**Fig.44**).

Fig 44



Select the polygons in the middle (one row more than in image!) and move them out a little. Contract the selection and merge the polygons into one. Extend it once, scale down and then move it out. Extend it again and scale down to zero. Delete the polygons and merge the points into one cantered. Merge the trigons into quads (so that you remove the green lines in the image!) (**Fig.45**)

Fig 45



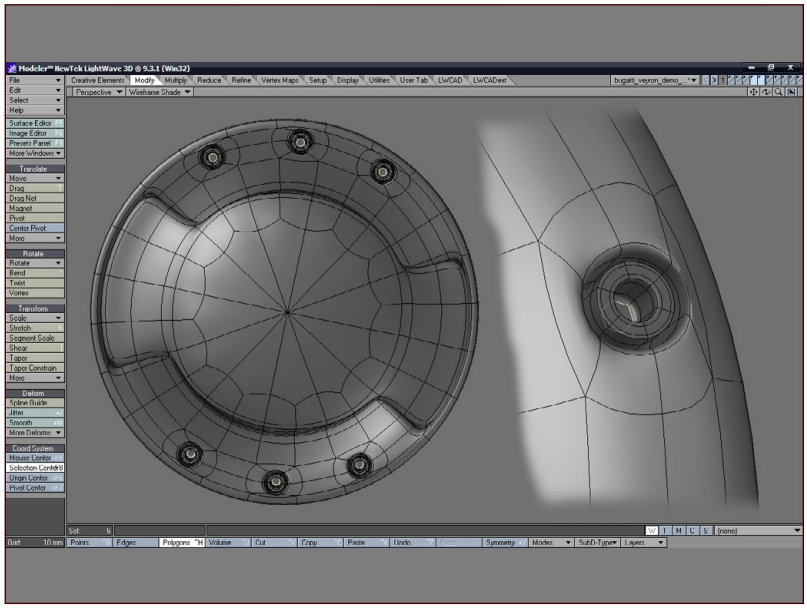


Fig 46

Do a series of extensions to make the cap screws. Simply select 6 polygons and extend them into the shape in the image (**Fig.46**).

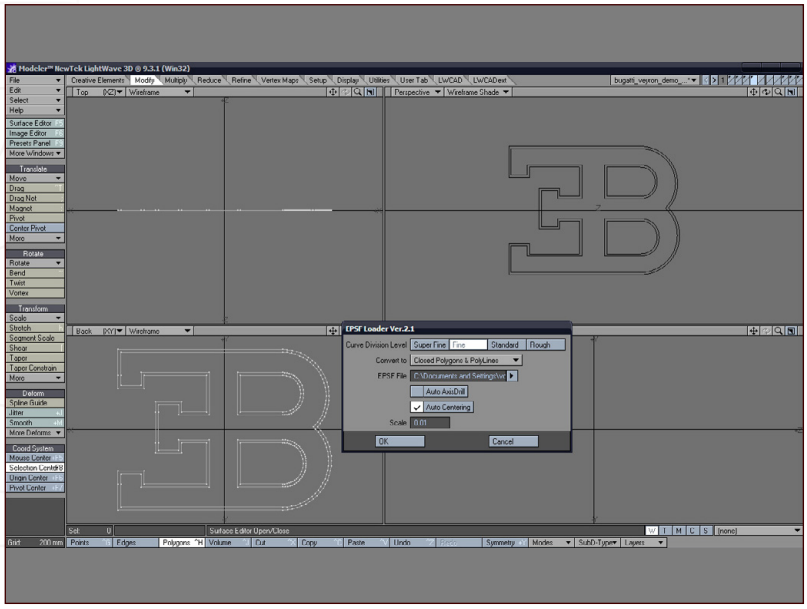


Fig 47

Logotypes! On this website, http://www.brandsoftheworld.com, you can find pretty much any logo from around the world. Search for Bugatti and you'll find two logotypes: one red and the other one made only of two letters. Download the "EB" logo in .eps format and load it into modeller using the EPSF loader in the File menu (**Fig.47**).

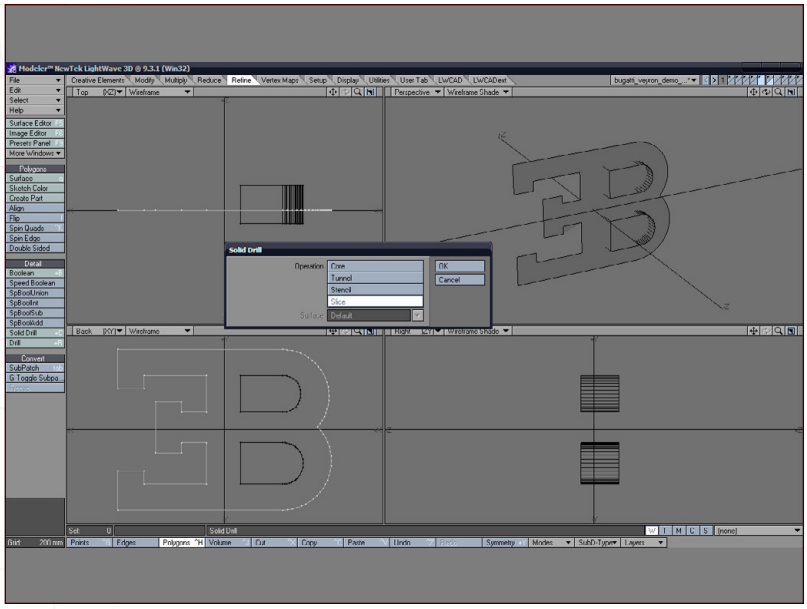
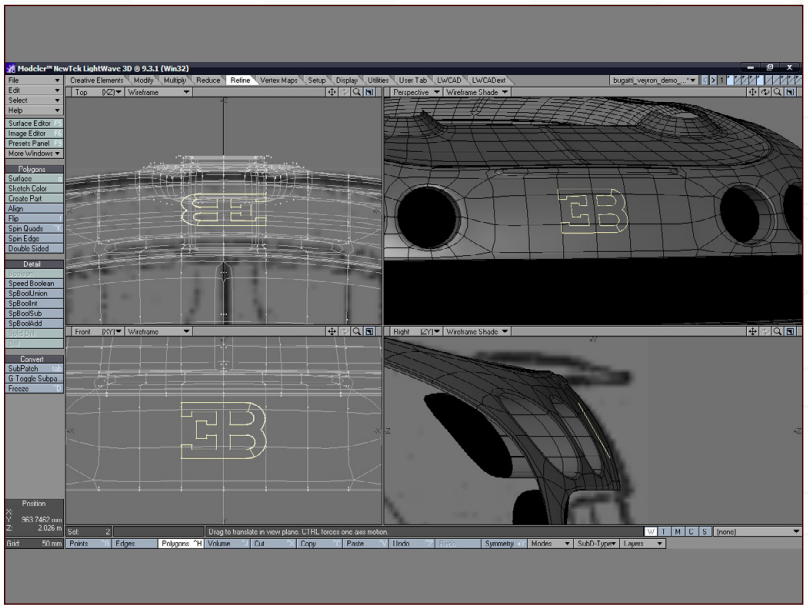


Fig 48

Select the inner polygons and drill holes in the letter (**Fig.48**).

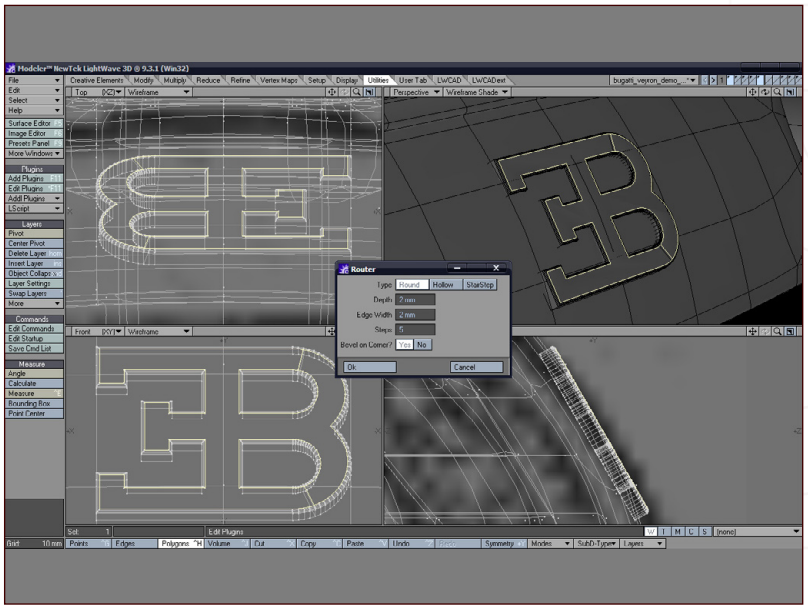
Position the logotype on the back side (**Fig.49**).

Fig 49



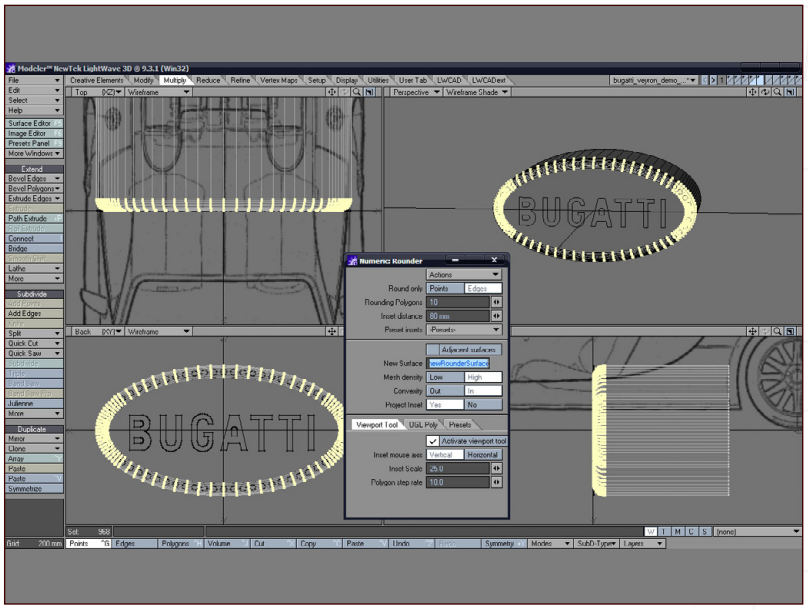
Extrude the polygons and bevel edges – or use the Router to do it for you. I usually measure distances using Bevel and then input that value into the Router (**Fig.50**).

Fig 50



Load in the other (red eclipsed) logo into modeller. Select the outer eclipse and move it to another layer. Extrude it back a fair way. Select the front points and apply a Rounder to them to, well, round the edge! (**Fig.51**)

Fig 51



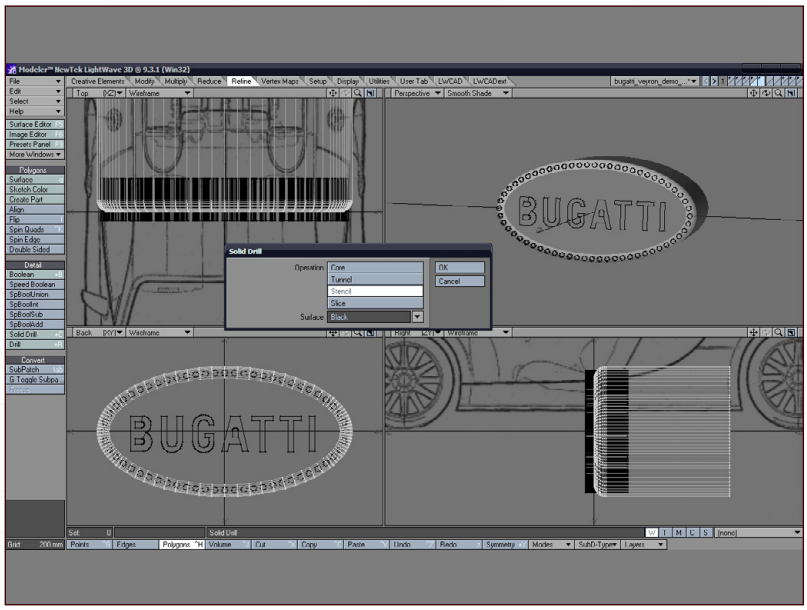


Fig 52

Delete all polygons – except for the dots and Bugatti letters – and give them a new surface name. Use Solid Drill > Stencil to stencil the surface into the logo. This way we don't need to select the letters again when we do surfacing! (**Fig.52**)

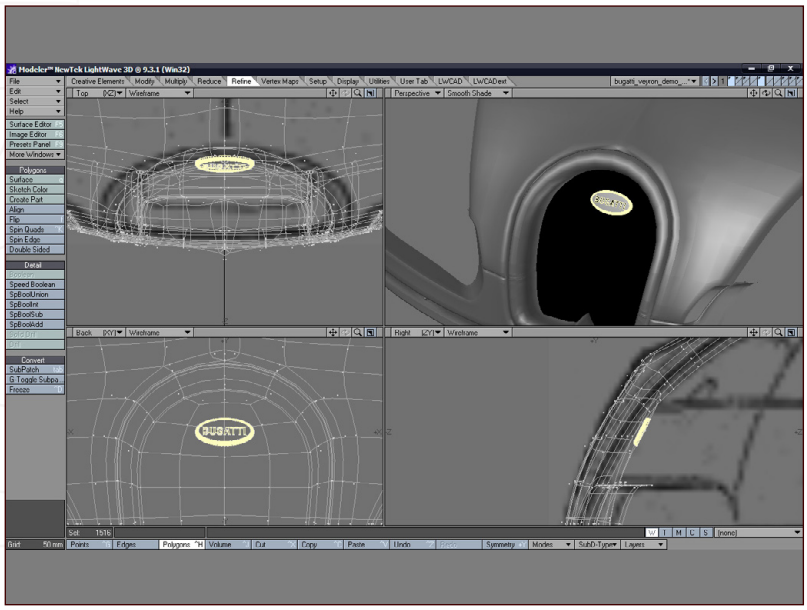
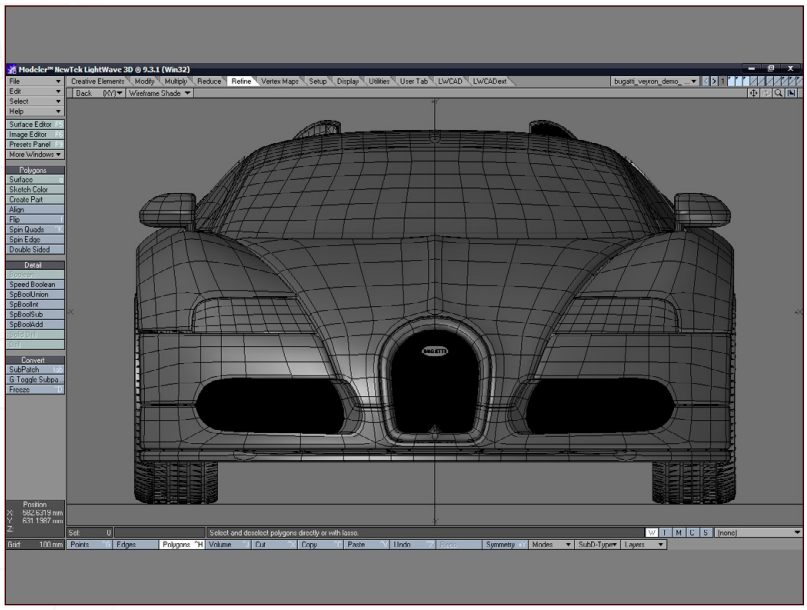


Fig 53

Finally, position the logo inside the front air duct (**Fig.53**).

Well this concludes the fourth instalment of the Bugatti Veyron tutorial series for LightWave. In the next part we are going to build interiors, as well as add some minor details. With that, we'll be done with modelling stage and ready to proceed to texturing part. Thank you!



BUGATTI VEYRON
PART 4 - WHEELS, TYRES & RIMS

Tutorial by:
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For more from this artist visit:
http://www.vojislavmilanovic.com/
Or contact them:
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- ongoing forum support from the author.
- full-screen resolution flash movies.

All aspects of creating the finished projects are taught in a way that artist of all levels will be able to learn at their own pace. Once these techniques have been learnt , they can be equally applied to all your future modelling and texturing projects.



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- Section 4: Texturing - Painting Skin, Eyes & the Horns.
- Training by in-house 3D Artist Richard Tilbury.
- Over 3hrs 30mins of comprehensive training.
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Bugatti Veyron
car modelling series

lightwave

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish. We will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. The series will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. This will be followed by a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

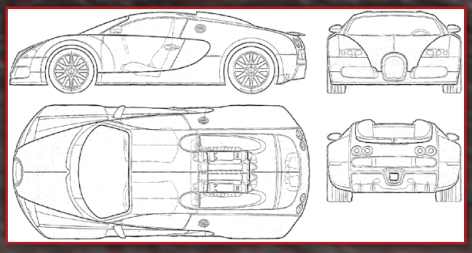
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

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Blueprints are available here:



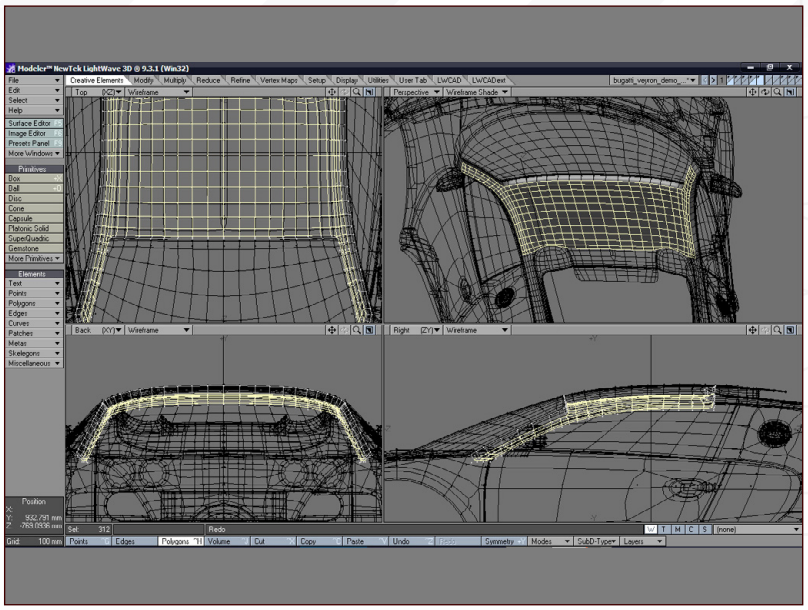
www.the-blueprints.com

BUGATTI VEYRON
PART 5 - INTERIOR

Hello and welcome to the fourth instalment of the Bugatti Veyron tutorial series. In this part we are going build the interior of the Veyron. We are going to build the seats, dashboard and wheel. So, let's begin!

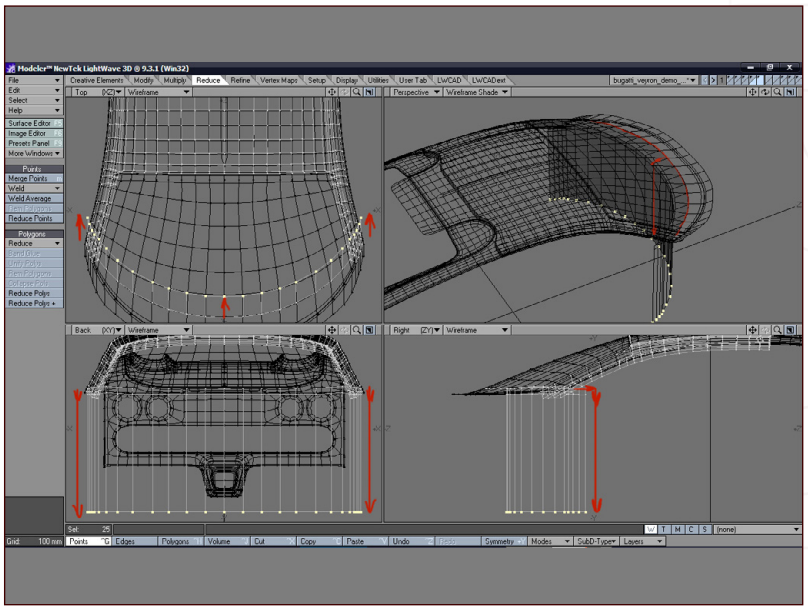
Select roof and side polygons like in the image; flip them and copy them onto another layer. Use Smooth shift with a couple of centimetres offset to give them thickness along the normals (**Fig.01**).

Fig 01



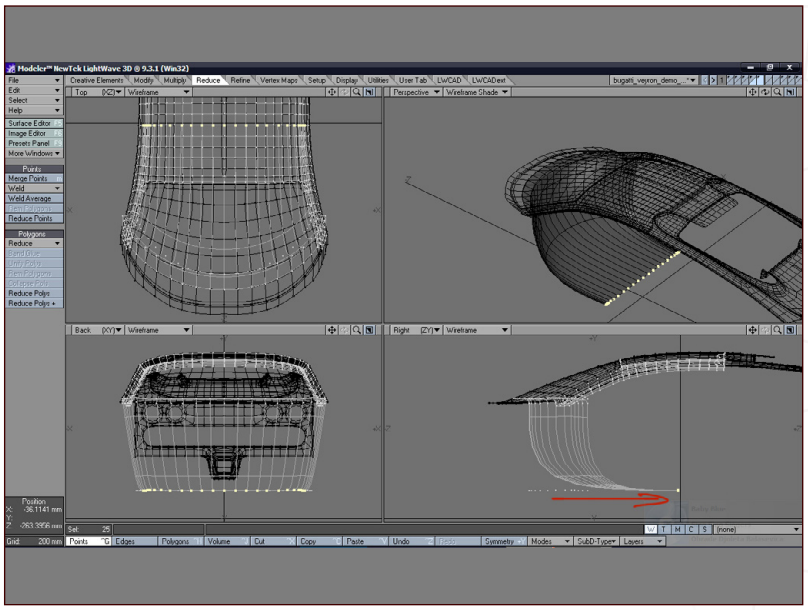
Select the second from the bottom row of points and extend them into the car's interior and down to floor (**Fig.02**).

Fig 02



Extend the same points once more to make a floor (**Fig.03**).

Fig 03



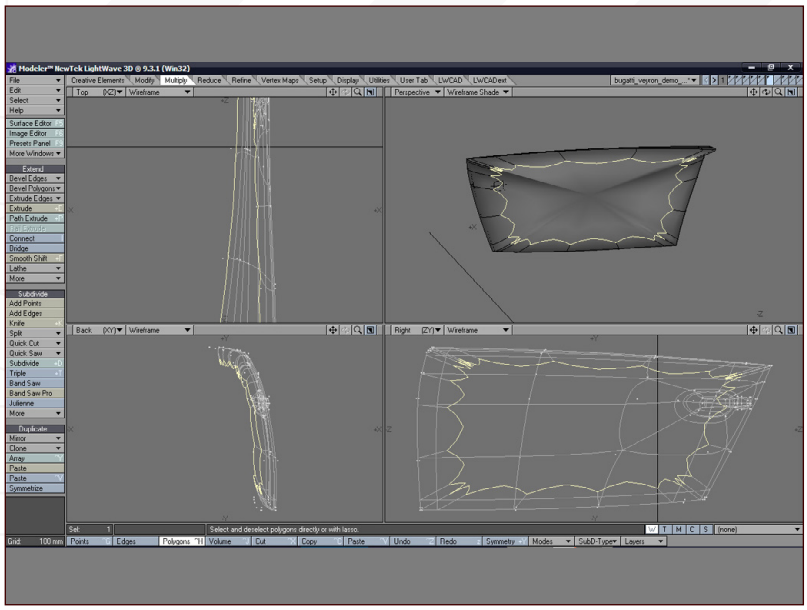


Fig 04

Select a loop on the inner side of the door and hit “P” to make a polygon (**Fig.04**).

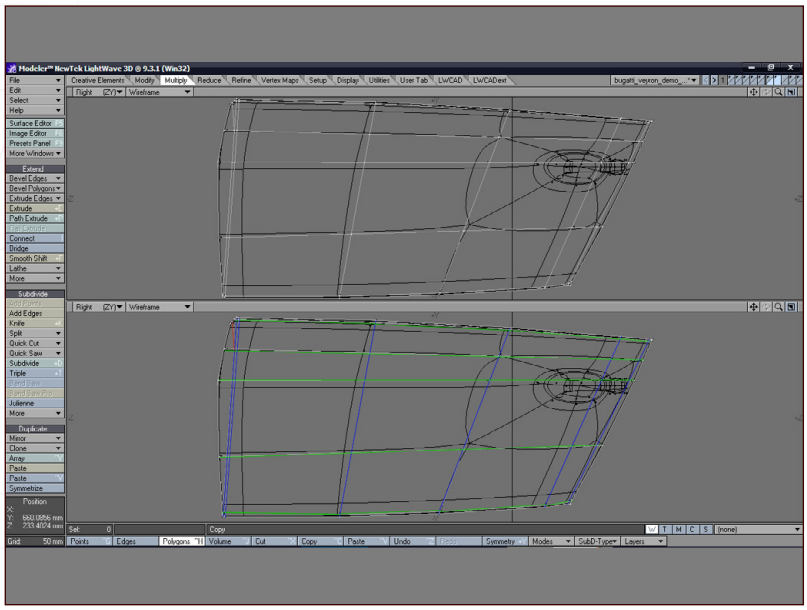


Fig 05

Copy the polygon onto another layer. Add cuts like in the image. For the cuts marked with blue lines I used a simple connect function. Select the polygon and on the top and bottom points hit “L” to connect them. For the cuts marked green I use Bandsaw pro to create cuts and then weld the end points. A little cut in the right corner marked with a red line was also made using the connect function. In the end, you should have all quads (**Fig.05**).

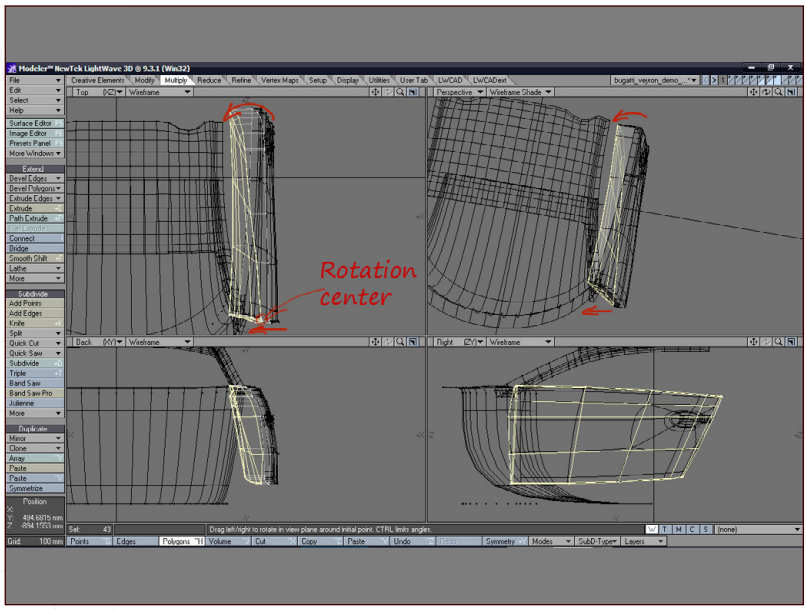
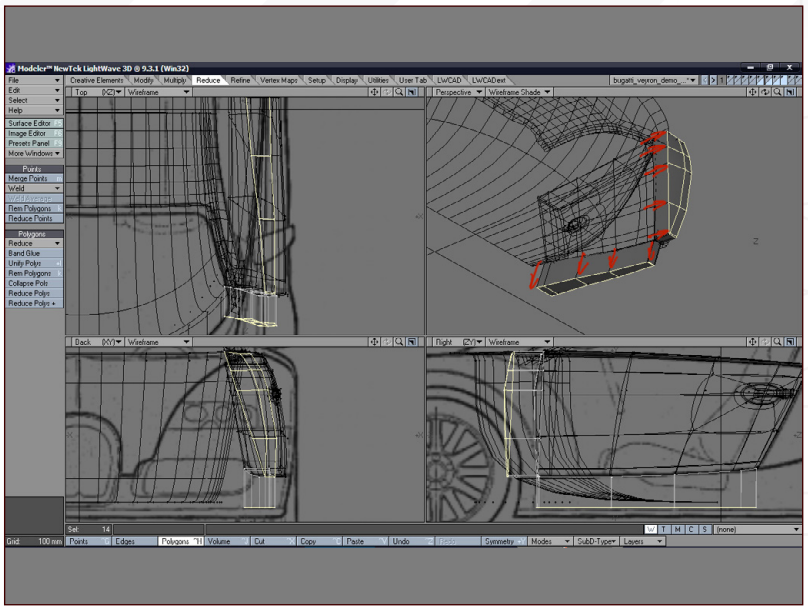


Fig 06

Extend the polygons once and move them into the car. Activate the rotation tool (“Y”), making sure Action Center is set to mouse, and then place the cursor where marked in the image, rotating the polygons slightly inwards (**Fig.06**).

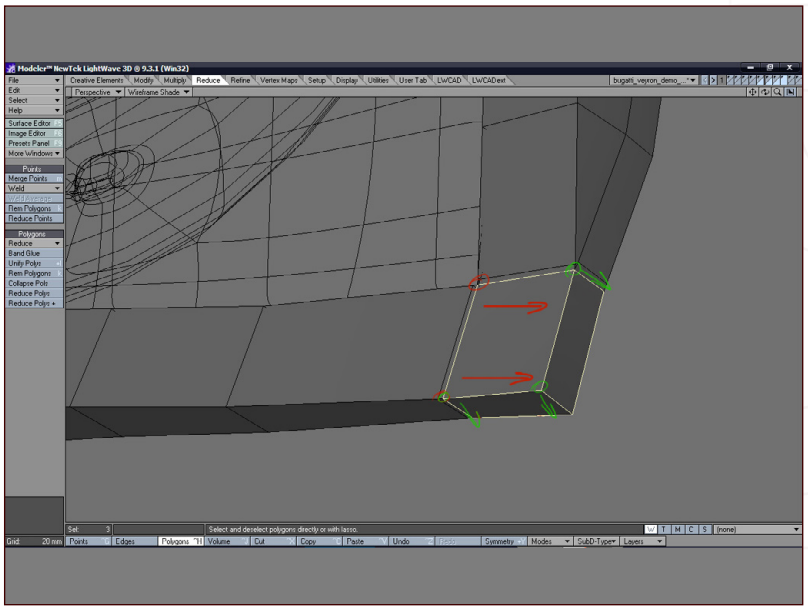
Select the front polygons of the extended section then extend them and move them forwards. Do the same with the bottom ones and move them down (**Fig.07**).

Fig 07



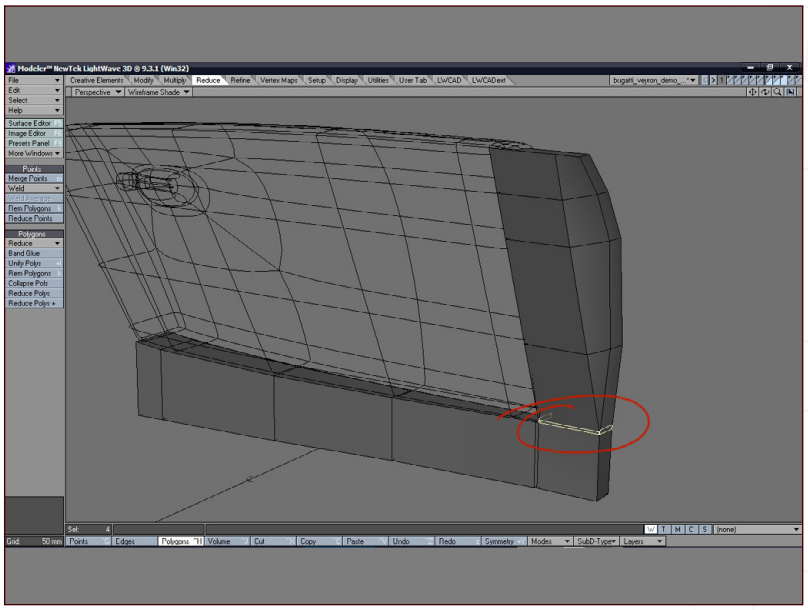
Select the two points marked in red; extend them and then move them towards the end of the structure. Weld the points in the upper corner to join them with the rest of geometry. Select the 3 end points marked in green, then extend them and move them outwards. Again, weld the points to join them with the rest (**Fig.08**).

Fig 08



Select the marked polygons and delete them (**Fig.09**).

Fig 09



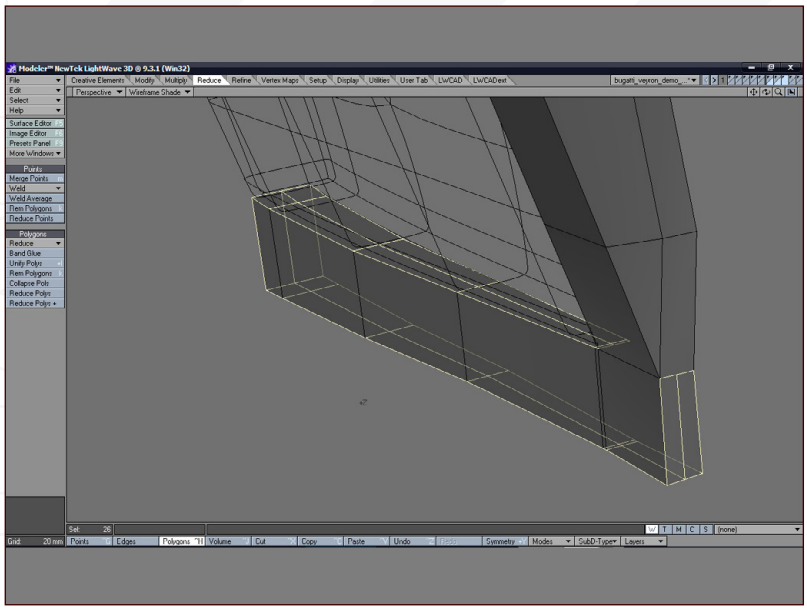


Fig 10

Select the polygons marked in the image and hit “L” to cut them in half (**Fig.10**).

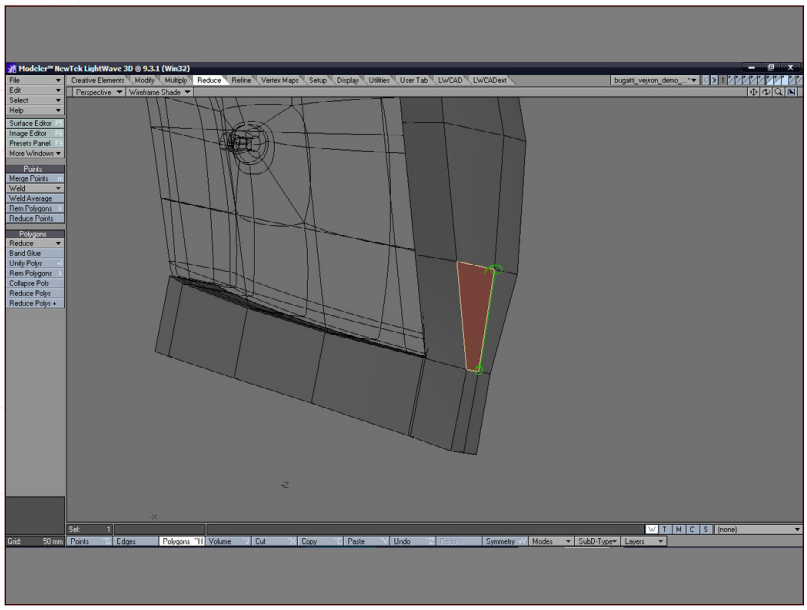


Fig 11

Split the polygon along the green line and merge the two remaining triangles into a quad. Do the same on the other side (**Fig.11**).

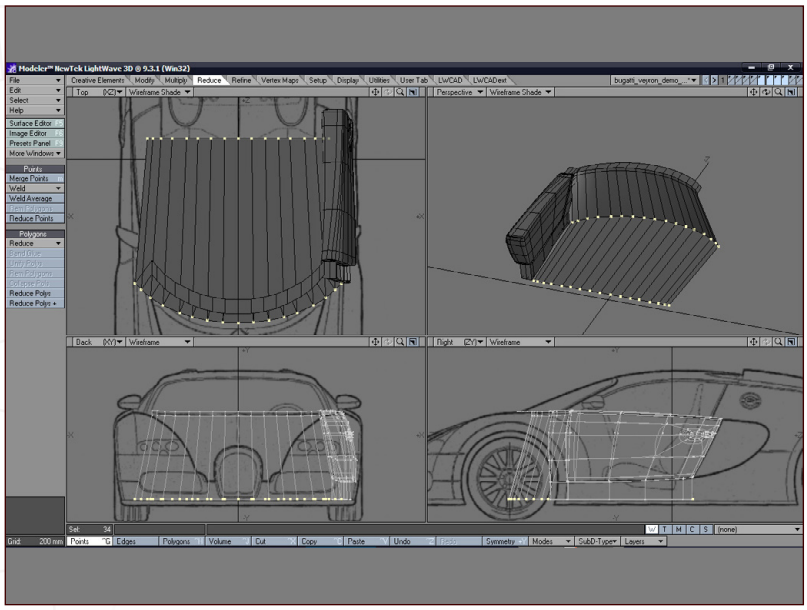
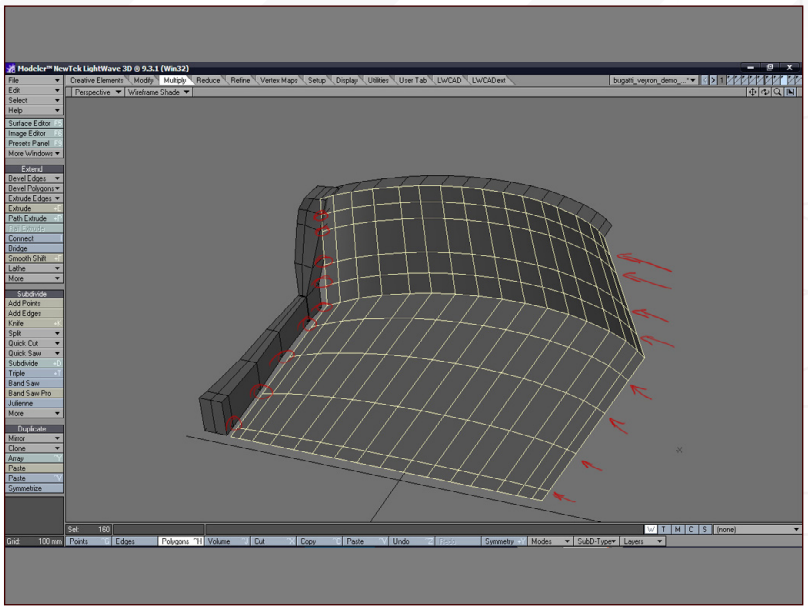


Fig 12

Select the marked points and scale and move them so that they fit better with the door’s interior (**Fig.12**).

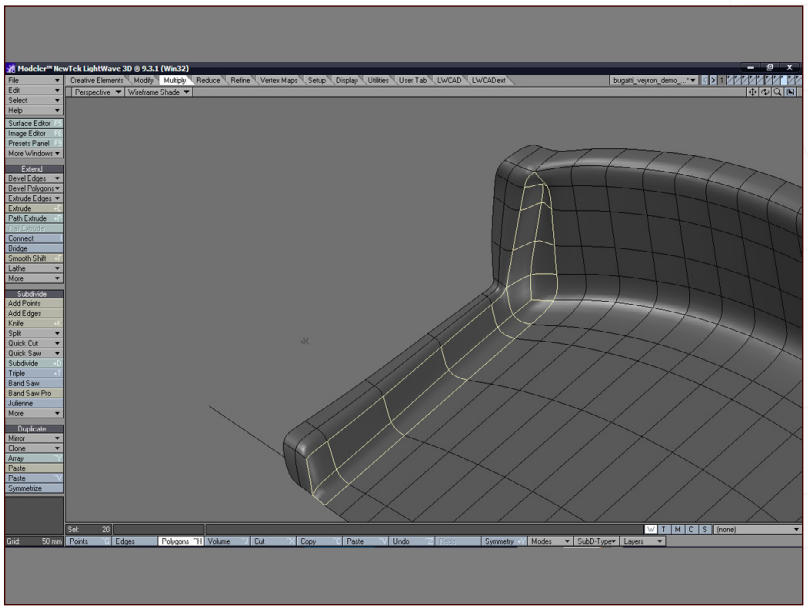
Use Bandsaw pro to make a series of cuts, like in the image. The important thing here is to match the two parts better (**Fig.13**).

Fig 13



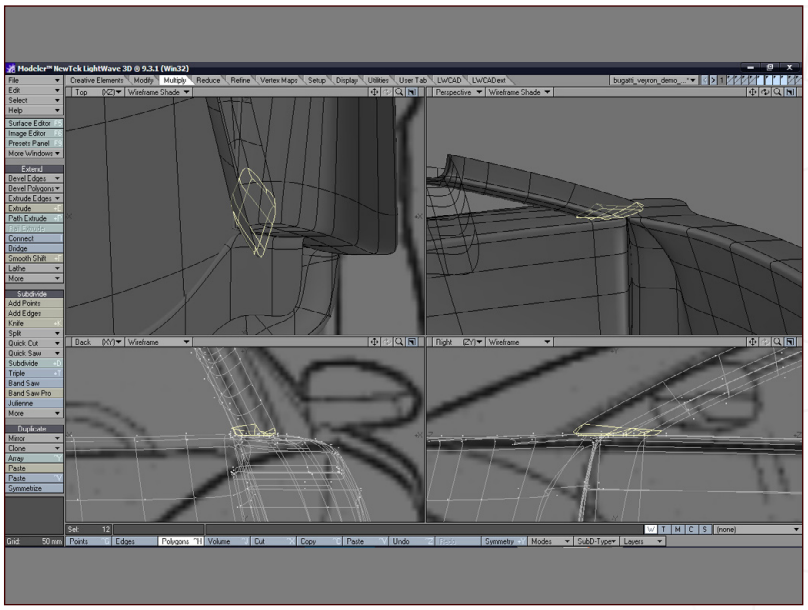
Merge the points to join the two parts (**Fig.14**).

Fig 14



Select the polygons of the side part created in the first step, and move them so that they fit with the rest of the interior (**Fig.15**).

Fig 15



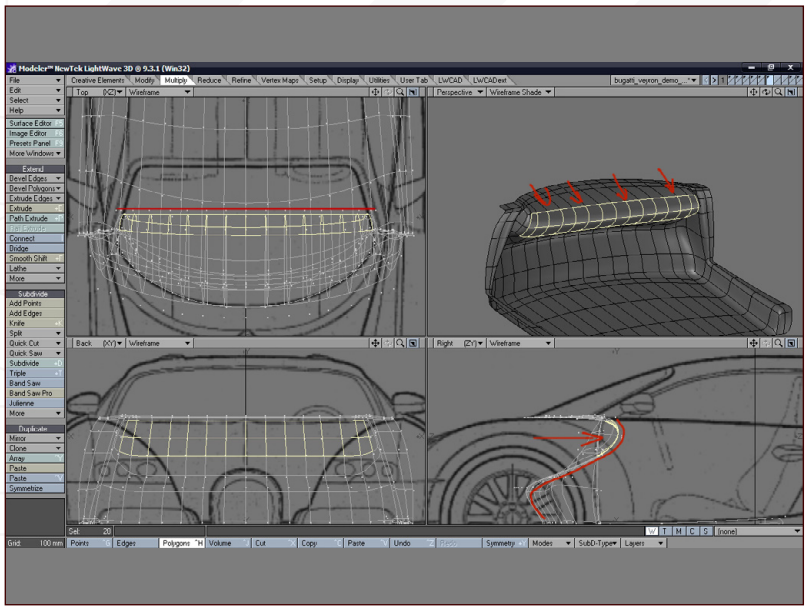


Fig 16

Select two rows of polygons, like in the image, then extend them and move them towards the seats. In top view, scale them down so they are flat. In side view, rearrange the end points to achieve a shape like shown in the image (**Fig.16**).

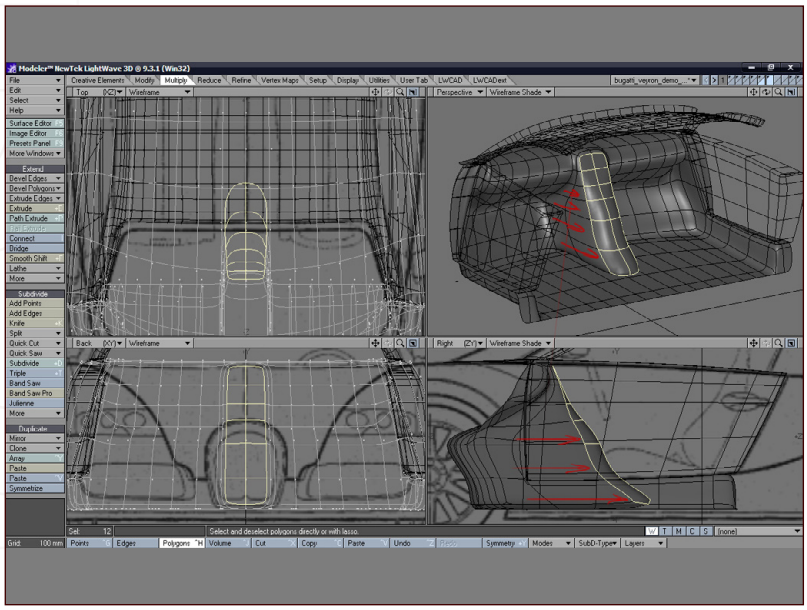


Fig 17

Select the polygons, like in image, then extend and move them towards the seats (**Fig.17**).

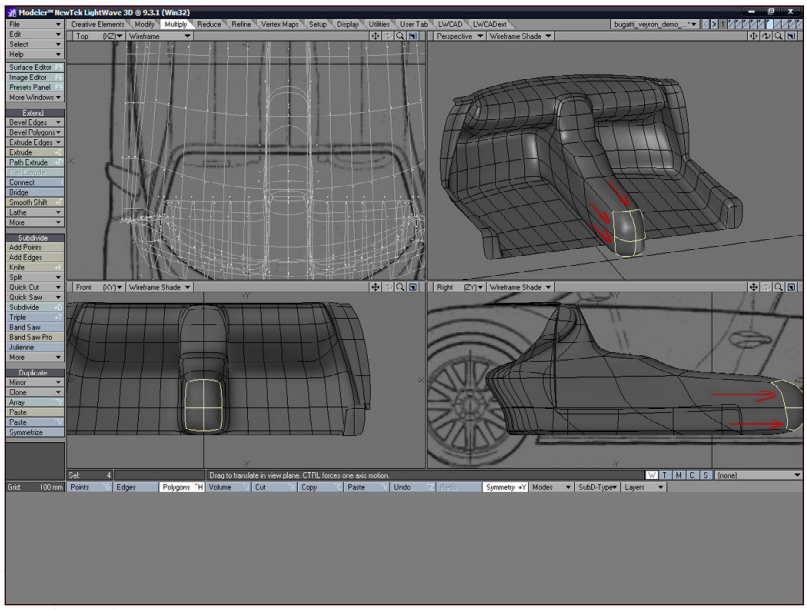
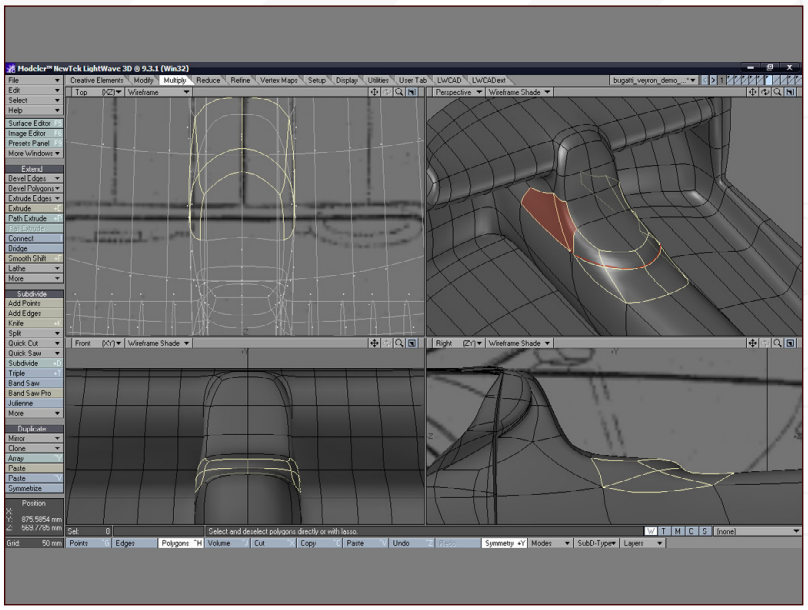


Fig 18

Repeat the same thing, only this time with four lower polygons (**Fig.18**).

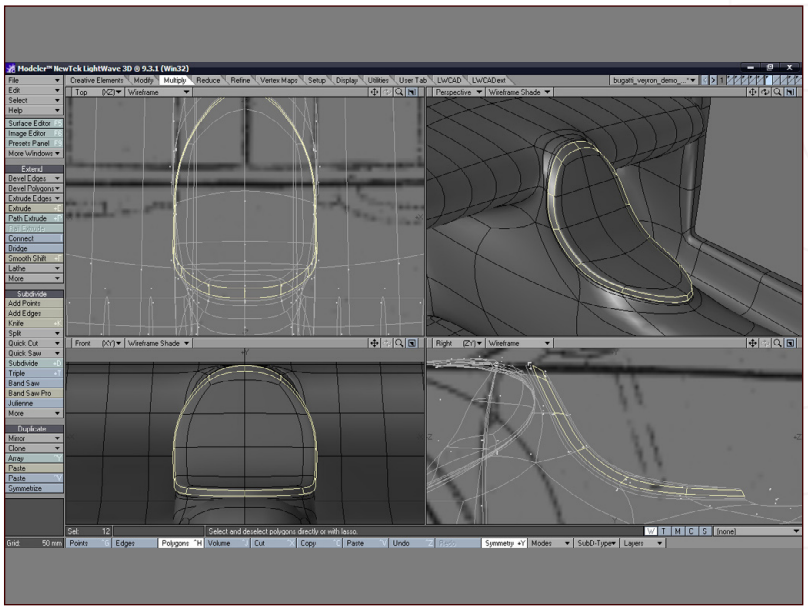
Select the polygons marked red in the image and spin quad them twice so that they look like shown in the image. Add a cut marked with a line. The goal here is to make a polygon loop! (**Fig.19**)

Fig 19



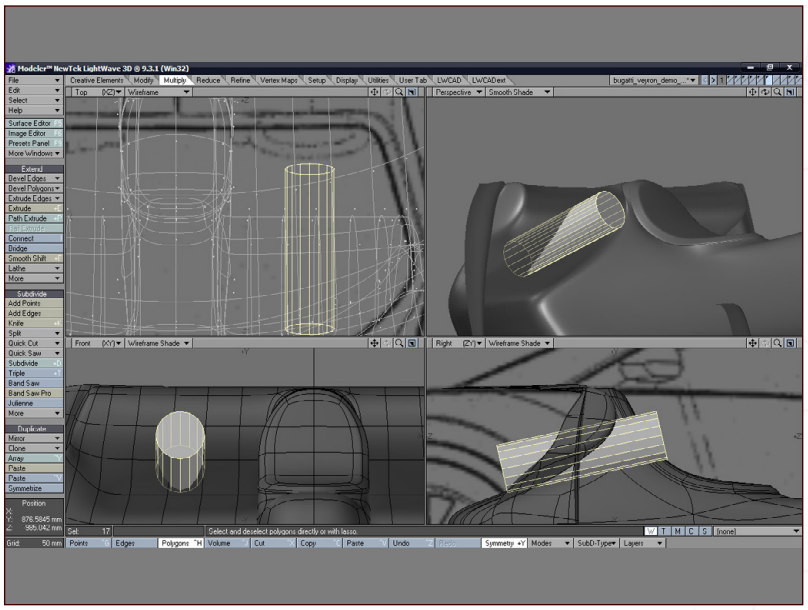
Select that polygon loop and use Bandsaw pro to add two cuts – one with about 5% and the other with 95% to sharpen the egdes. You might need to use the Drag tool to make the shape more rounded, like in the image (**Fig.20**).

Fig 20



Make a simple 16-sided cylinder, like in the image (**Fig.21**).

Fig 21



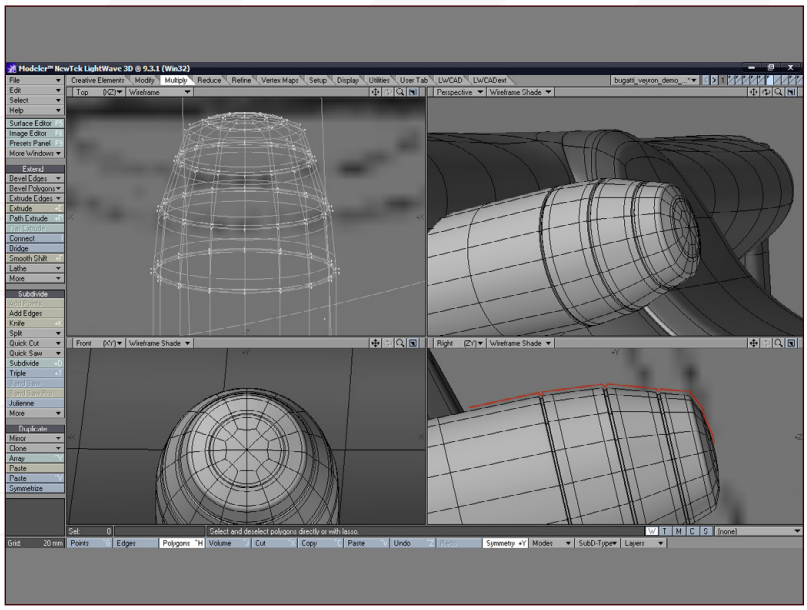


Fig 22

Select the end polygon and make a series of extensions to create a shape like shown in the image. At the end, scale the extending polygon down to zero (make sure your Action Center is set to Selection again). Delete the end polygon, merge its point to one, and finally merge end trigons into quads (**Fig.22**).

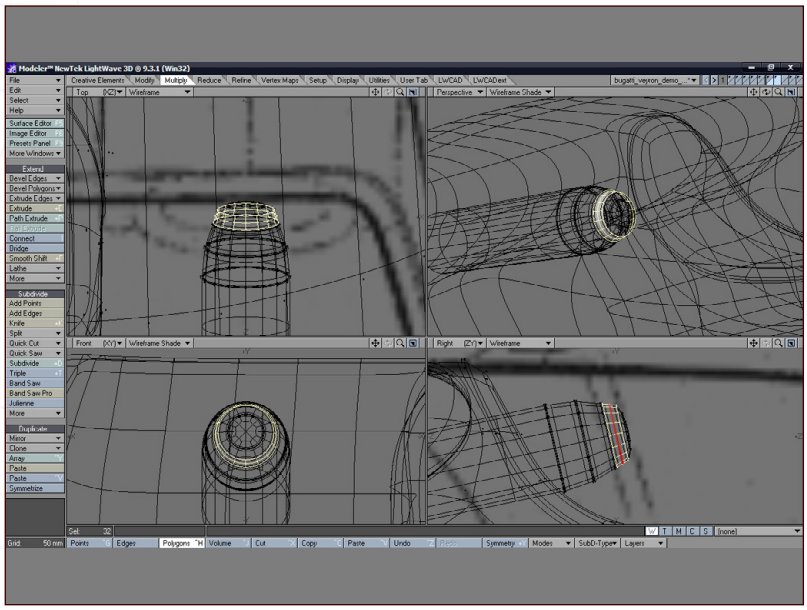


Fig 23

Select the polygons, like in the image, and move them to another layer. Cut them in half (**Fig.23**).

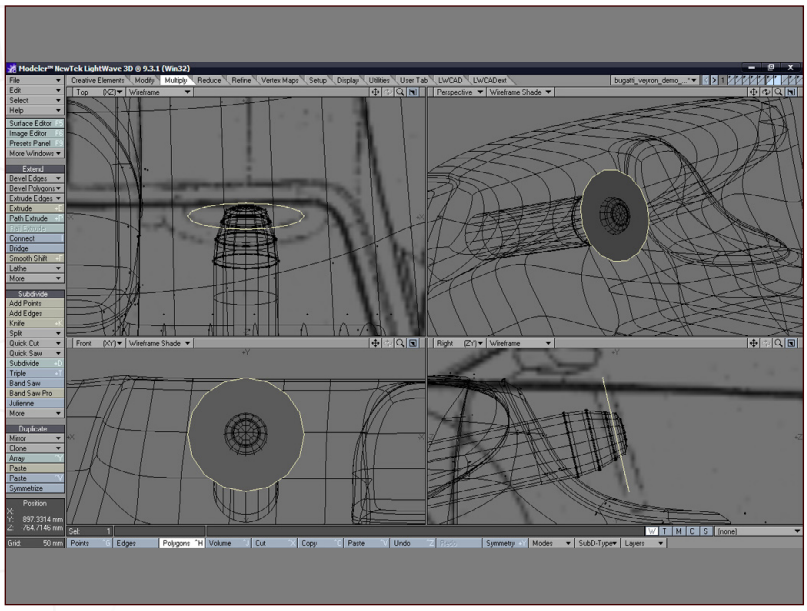
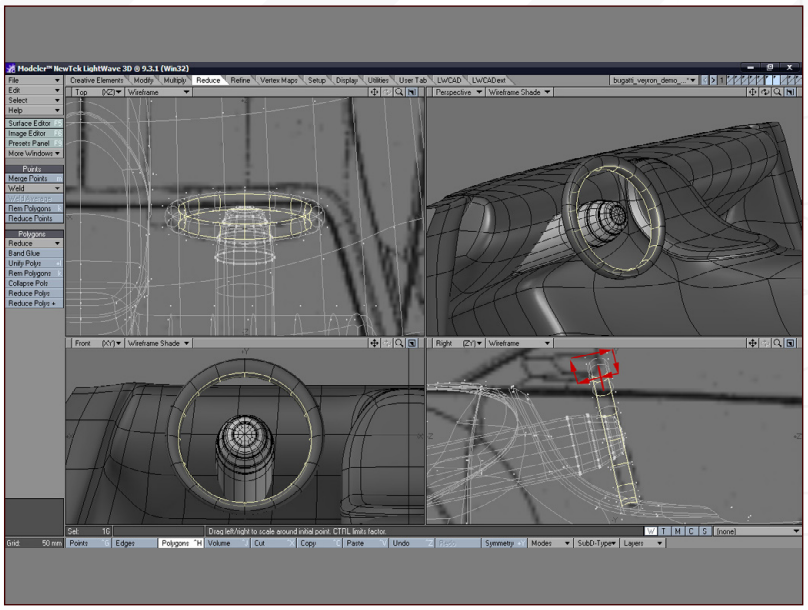


Fig 24

Select the points at the centre cut and create a polygon. Scale the polygon up to make a wheel. Delete the other polygons (**Fig.24**).

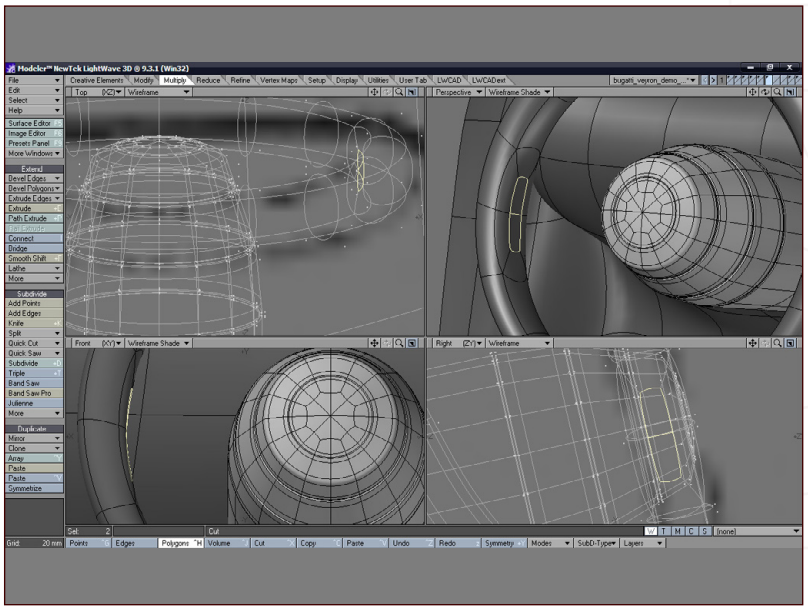
Extend the polygons around to make a shape like shown in the image. Band Glue the inner ring (**Fig.25**).

Fig 25



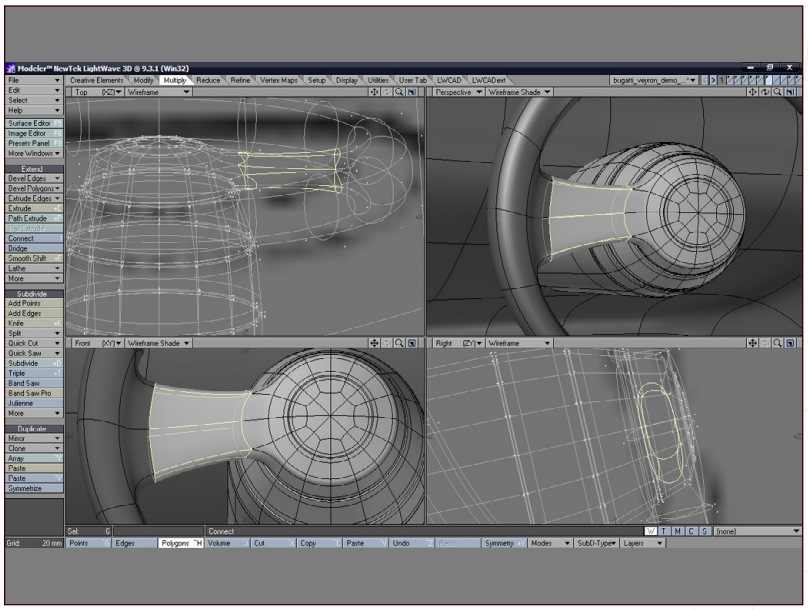
Select the two inner polygons on the side of the wheel, like in the image, and run QuickSaw Terminated to create the inner polygons (**Fig.26**).

Fig 26



Add two matching polygons onto the wheel centre selection, and then run Bridge to connect them (**Fig.27**).

Fig 27



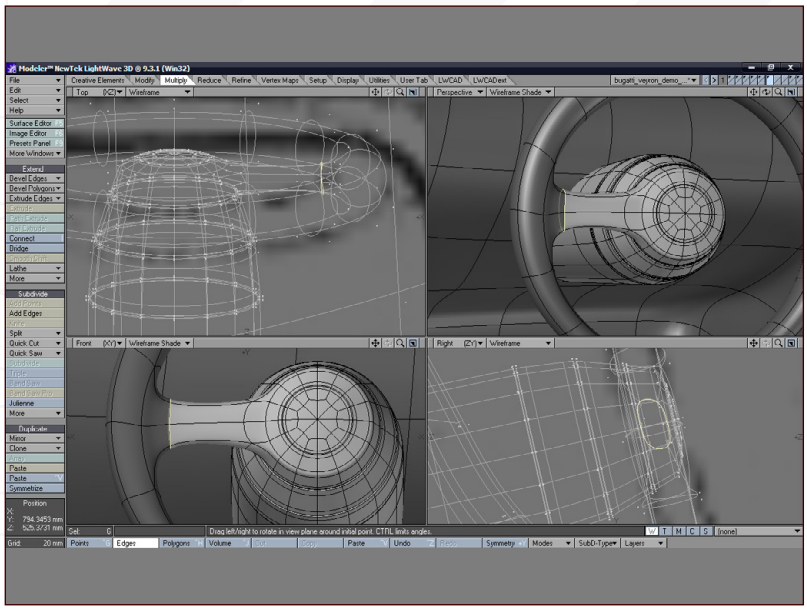


Fig 28

Select loop the edge, like in the image, and then scale them down to make the connecting part flatter (**Fig.28**).

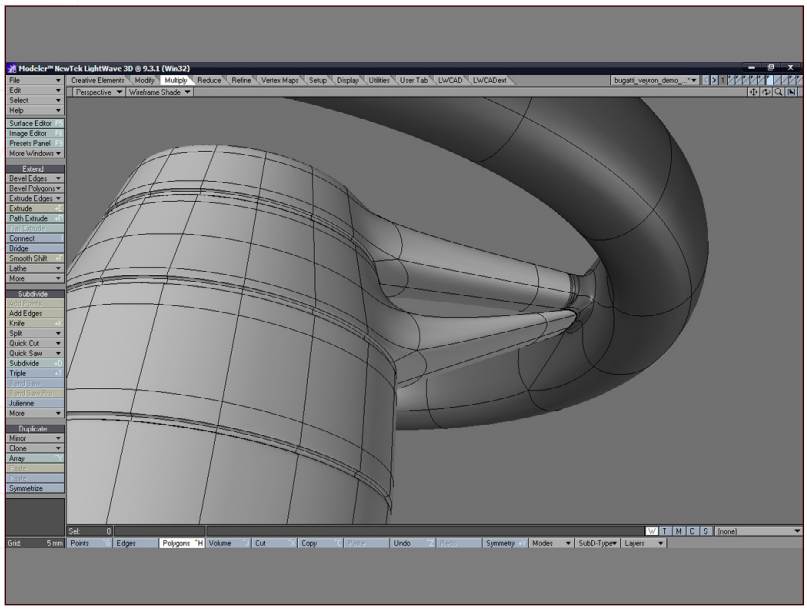


Fig 29

Using the same technique, add another connecting part (**Fig.29**).

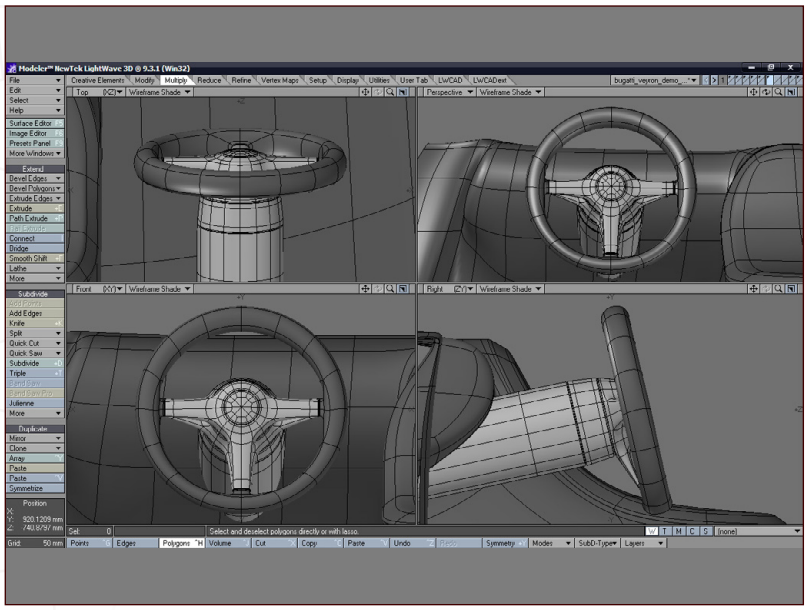
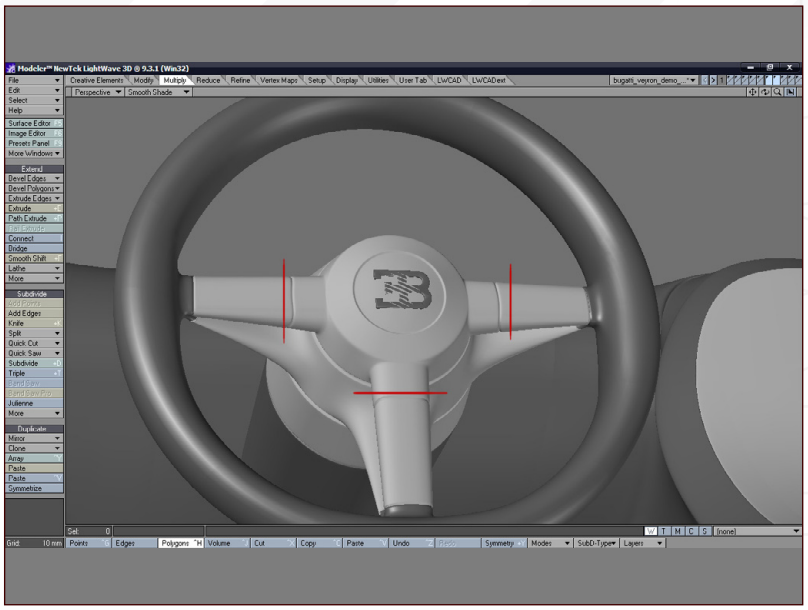


Fig 30

Copy the connecting parts to the left and down, and then weld their points to the wheel (**Fig.30**).

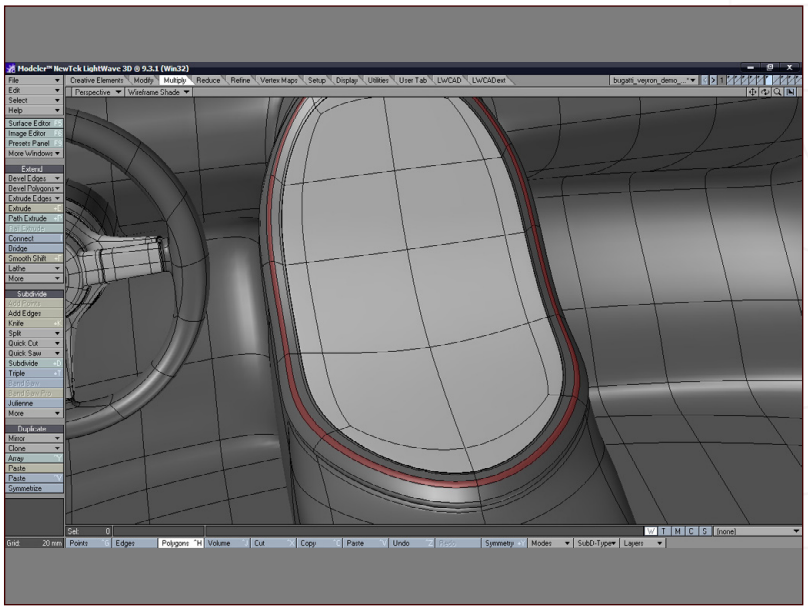
Add the cuts onto the end and copy the EB logo onto the centre of the wheel (**Fig.31**).

Fig 31



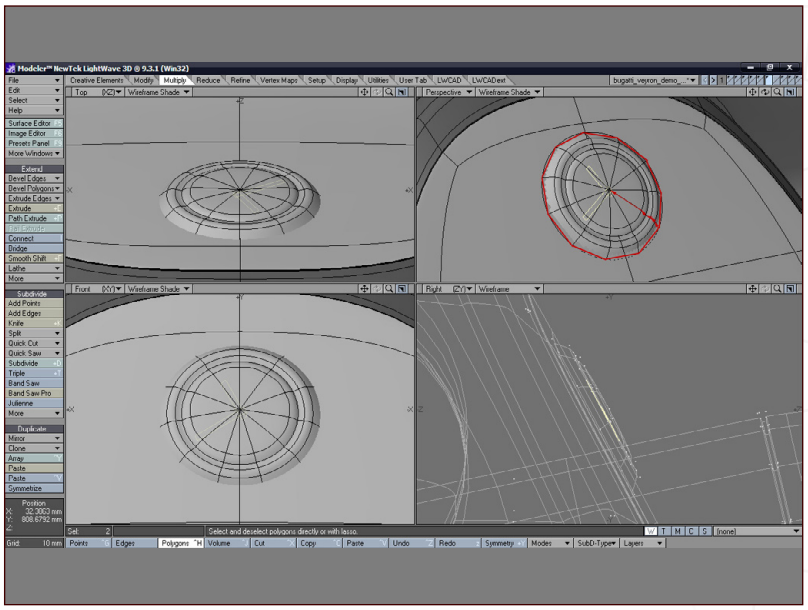
Add the cut in the middle and refine the shape so it's more square-like (**Fig.32**).

Fig 32



Make a disc, like in the image. Scale and rotate it so that it fits on the surface. Make a series of extensions to create the rim and the glass surface of the clock (**Fig.33**).

Fig 33



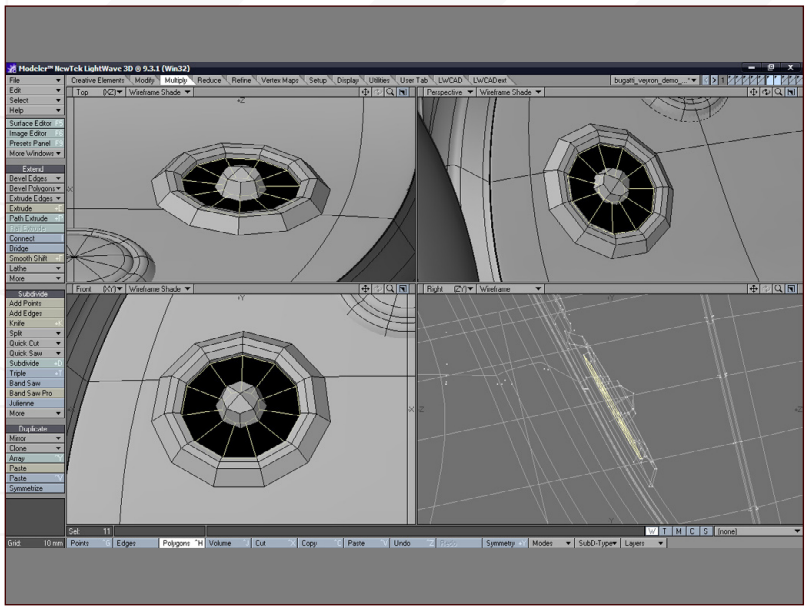


Fig 34

Using the same technique, make an air vent. Instead of making glass, assign the black surface to simulate the hole (**Fig.34**).

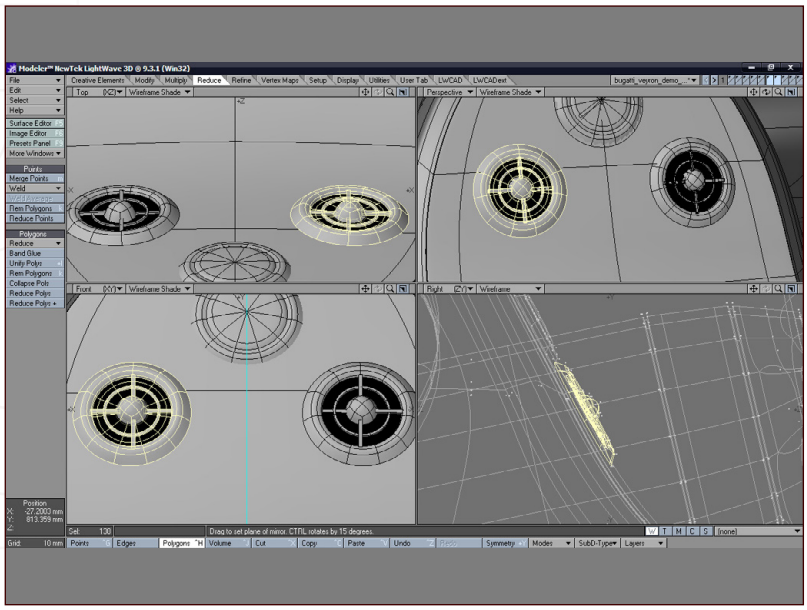


Fig 35

Create a circle and the cross holding bits in the middle. Use simple four-sided polygons, which are just enough for this bit! (**Fig.35**)

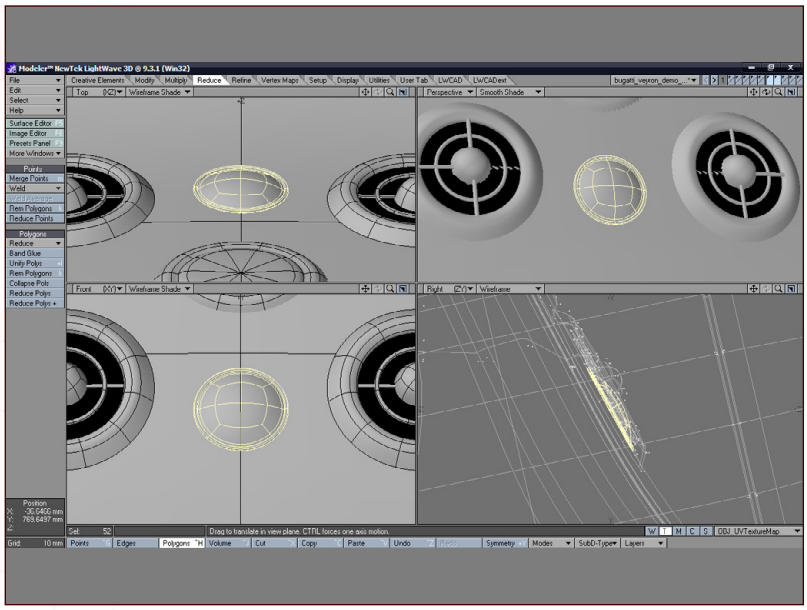
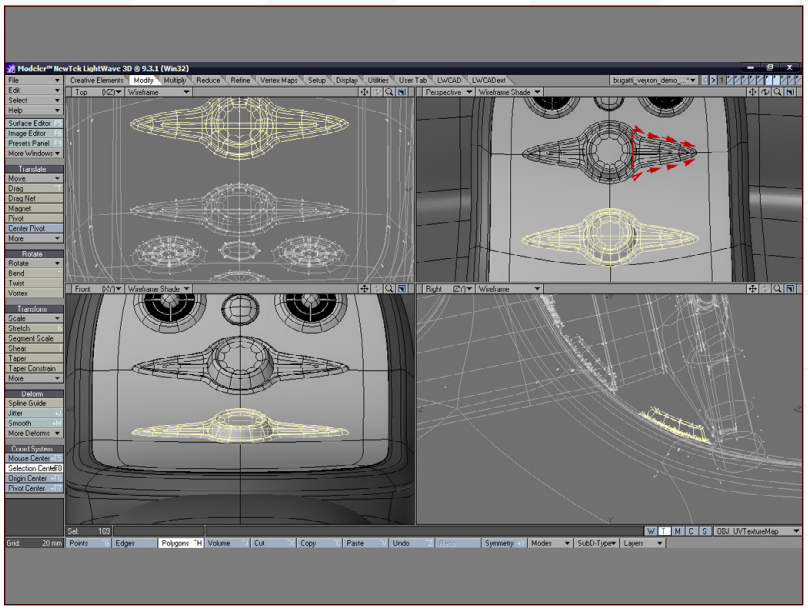


Fig 36

Now make a centre button for four blinking lights (**Fig.36**).

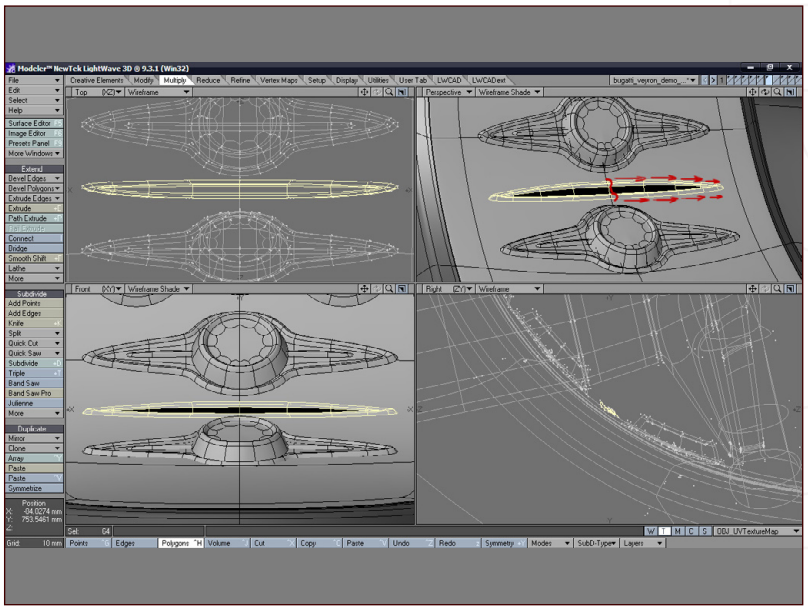
For the controller unit, make a 28-sided disc. Select the side polygons and move them aside to make a shape similar to the one in the image. Make a centre rotation by simply extending a disc (**Fig.37**).

Fig 37



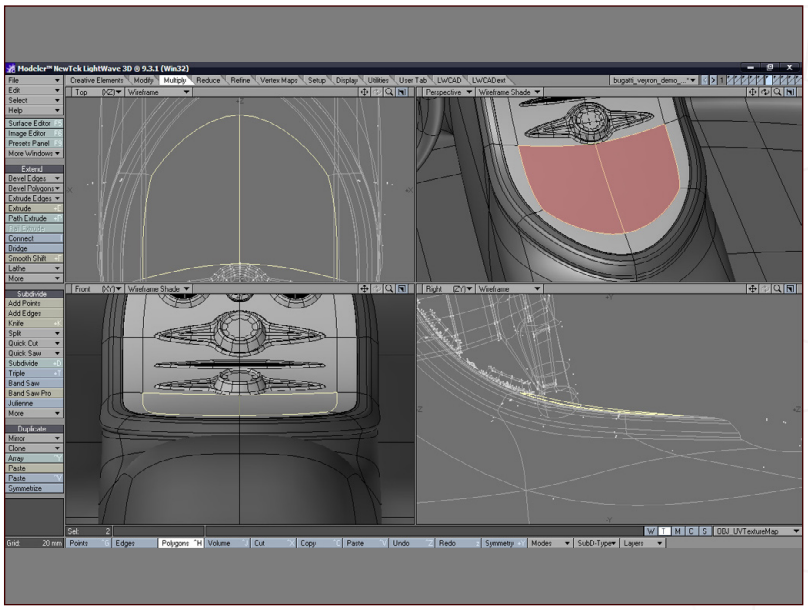
Create a rimmed shape, like in the image, and extend the sides to make a CD/DVD insertion hole. Use the black surface again for the hole (**Fig.38**).

Fig 38



Select two centre polygons and move them to another layer (**Fig.39**).

Fig 39



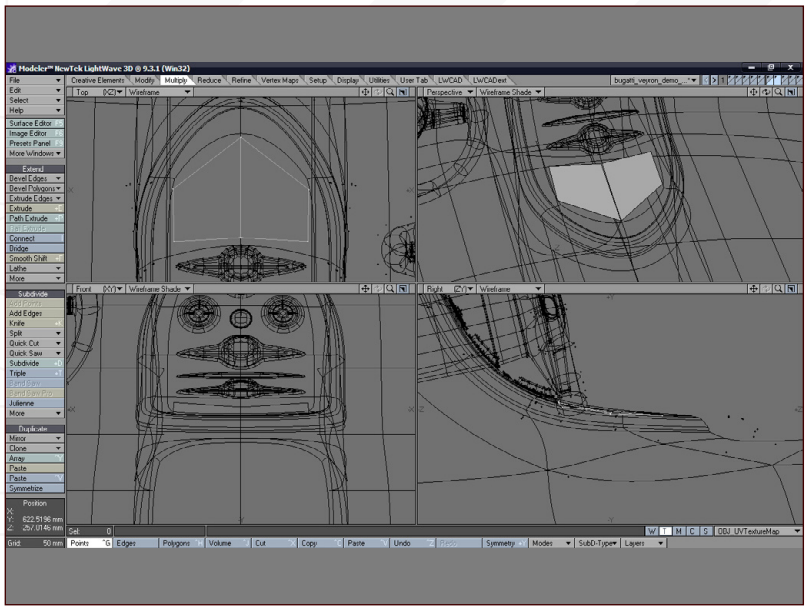


Fig 40

Scale the polygons down a bit and use the drag tool to reshape them (**Fig.40**).

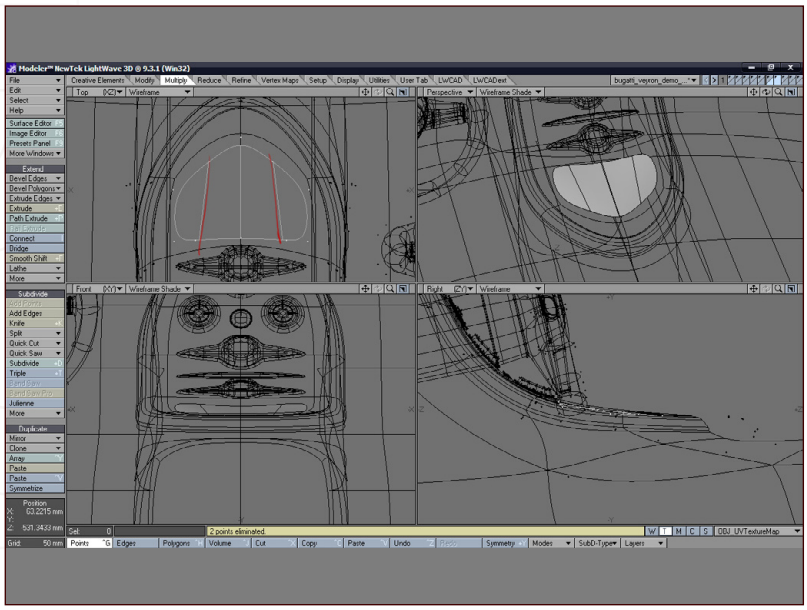


Fig 41

Add two cuts, like in the image, and drag the points until you achieve the shape similar to the one in the image (**Fig.41**).

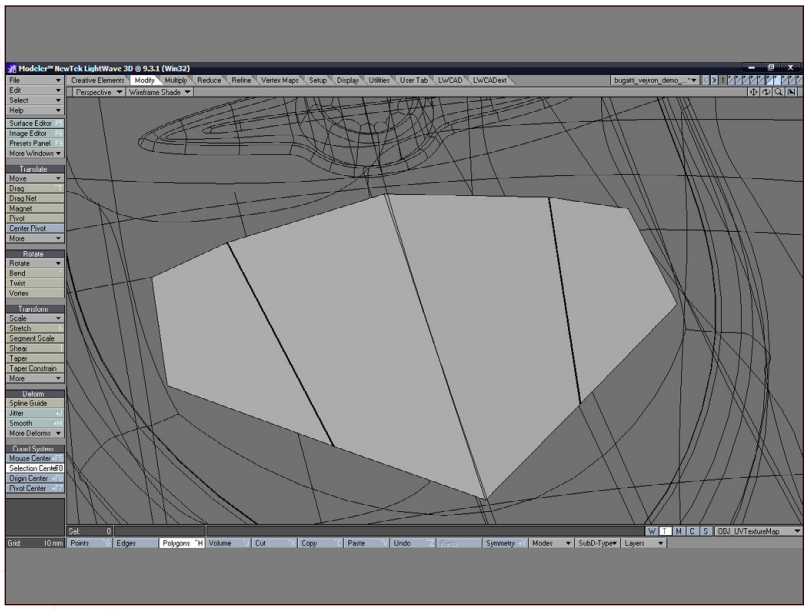
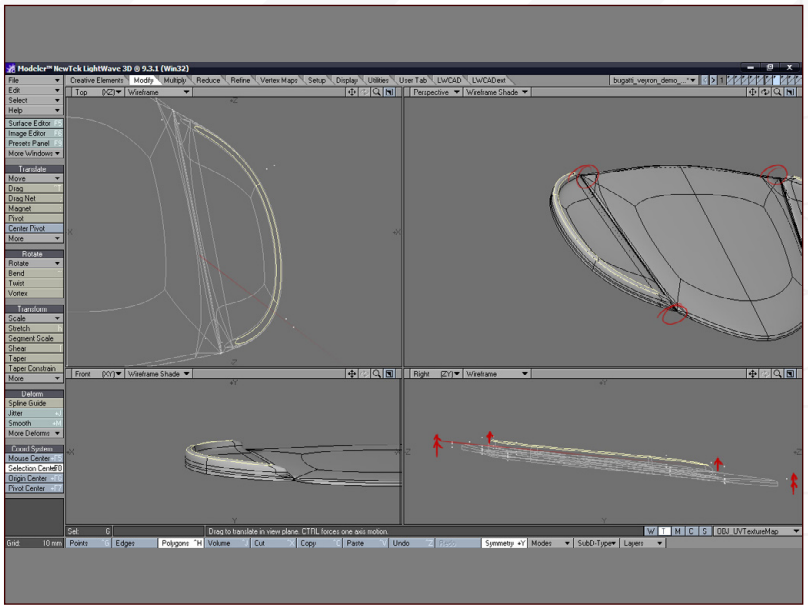


Fig 42

Make those two cuts a little wider by adding cuts just next to them. They should be fairly thin cuts (**Fig.42**).

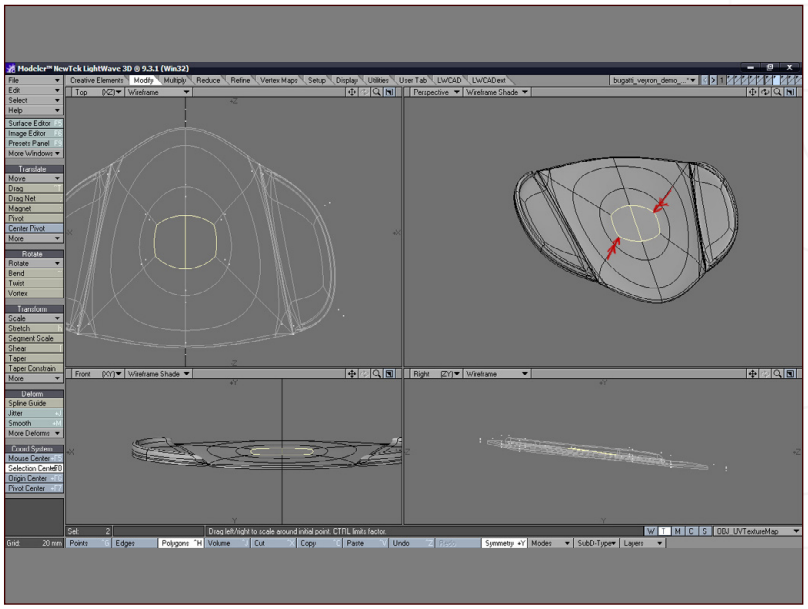
Select all the polygons, apart from the cut ones, and extend them twice. Join the points at the ends to make the shape stick together at the cut ends. Extend the side polygons once more and raise them up a bit (**Fig.43**).

Fig 43



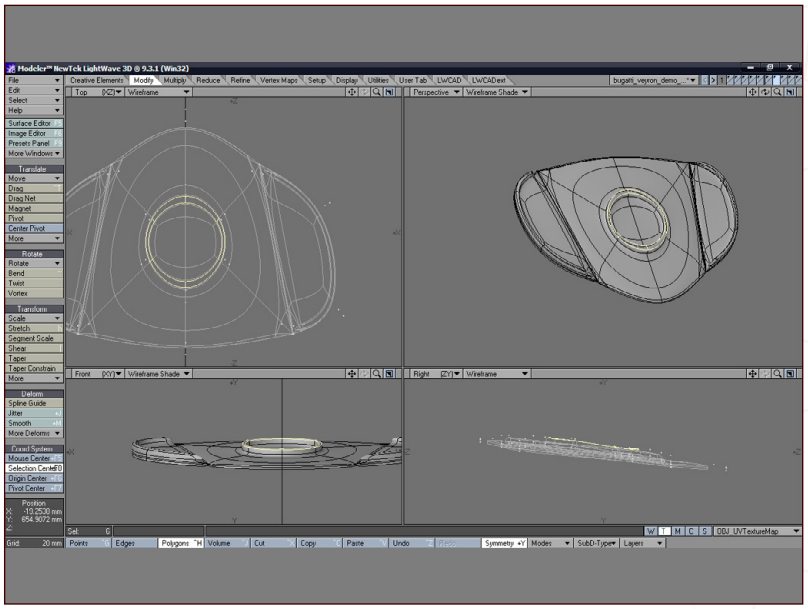
Select the centre polygons and extend and scale them down a bit, twice (**Fig.44**).

Fig 44



Select the second ring (next to the polygons we just extended) and extend them and move it up (**Fig.45**).

Fig 45



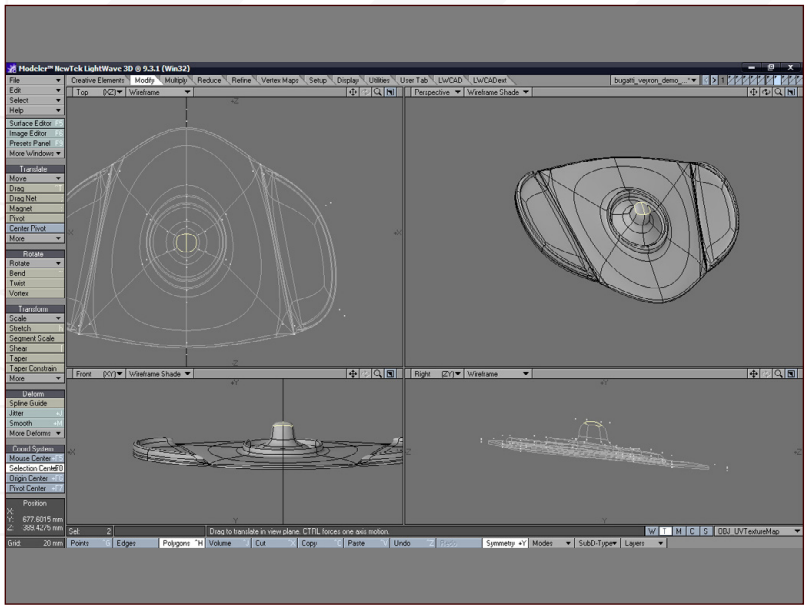


Fig 46

Select the centre bit again and extend and move it up (**Fig.46**).

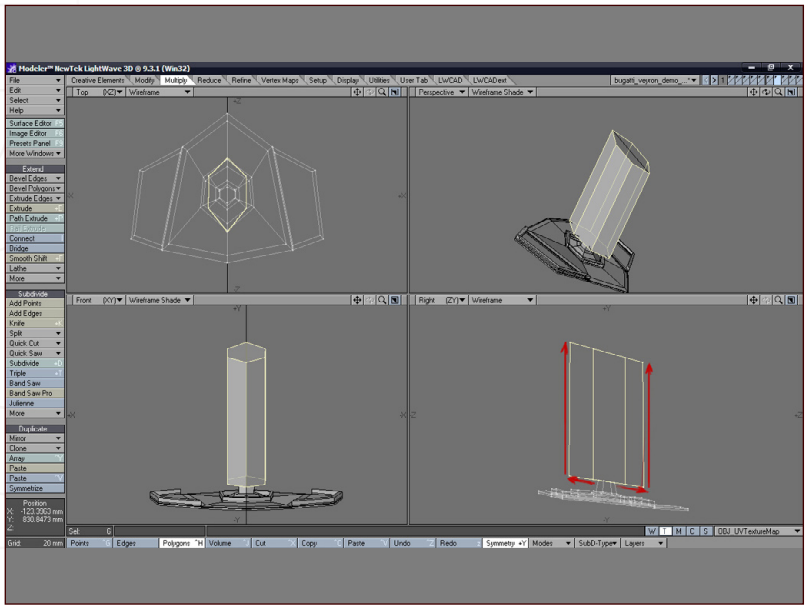


Fig 47

Make two more extensions to the side and move upwards to create a joystick-like shape (**Fig.47**).

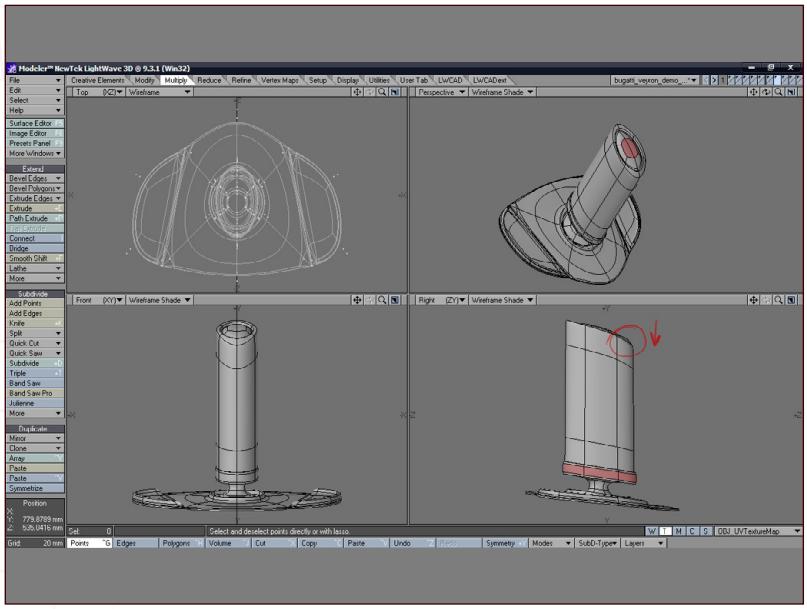
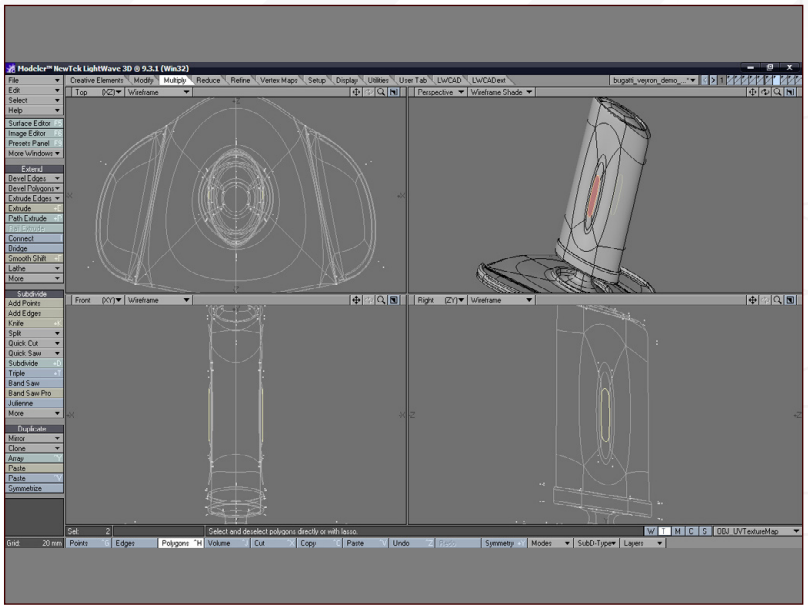


Fig 48

Add more cuts to define the details marked red in the image. Also select and move the back side of the stick down a little, to make it more rounded (**Fig.48**).

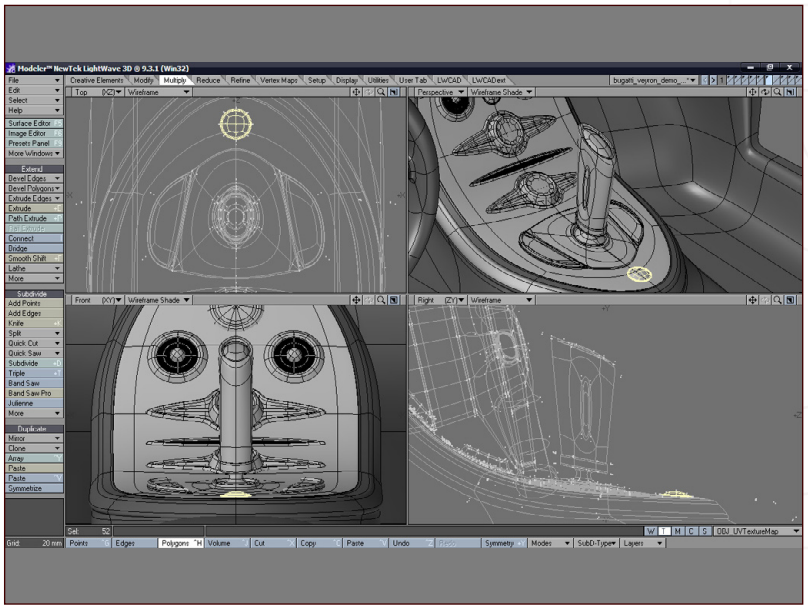
Select the side polygon and extend and scale it down couple of times, to get the side button-like shape (**Fig.49**).

Fig 49



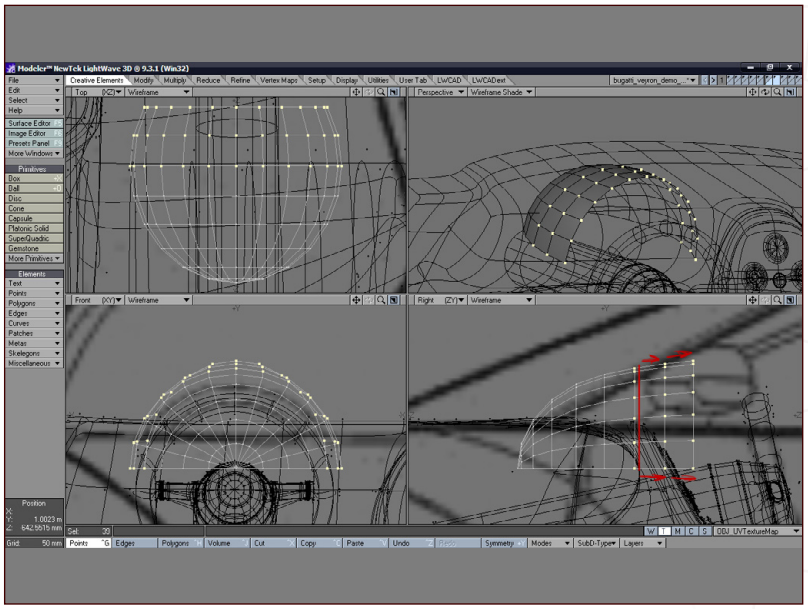
Place the starting button just below the gear unit (**Fig.50**).

Fig 50



Make a simple ball and delete the lower and back half of it. Extend the end points twice, like in the image (**Fig.51**).

Fig 51



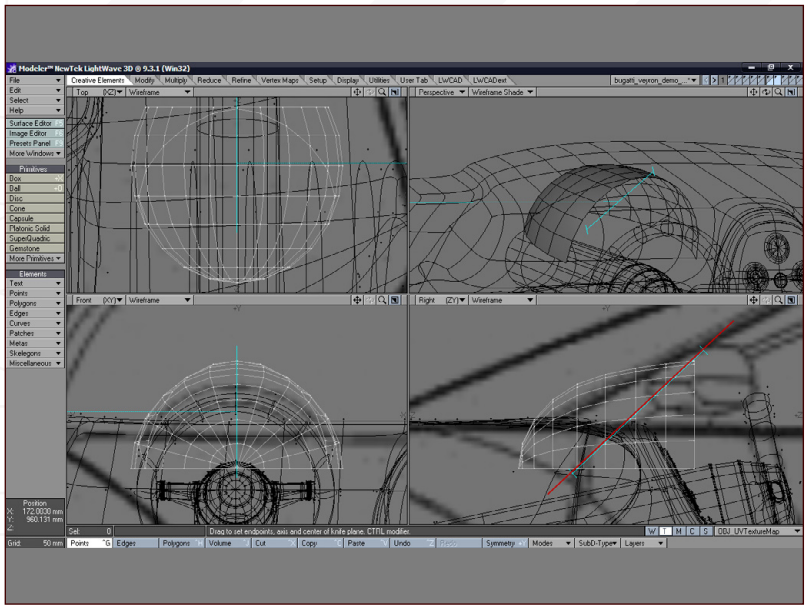


Fig 52

In side view, use the Knife tool to make a cut, like in the image (**Fig.52**).

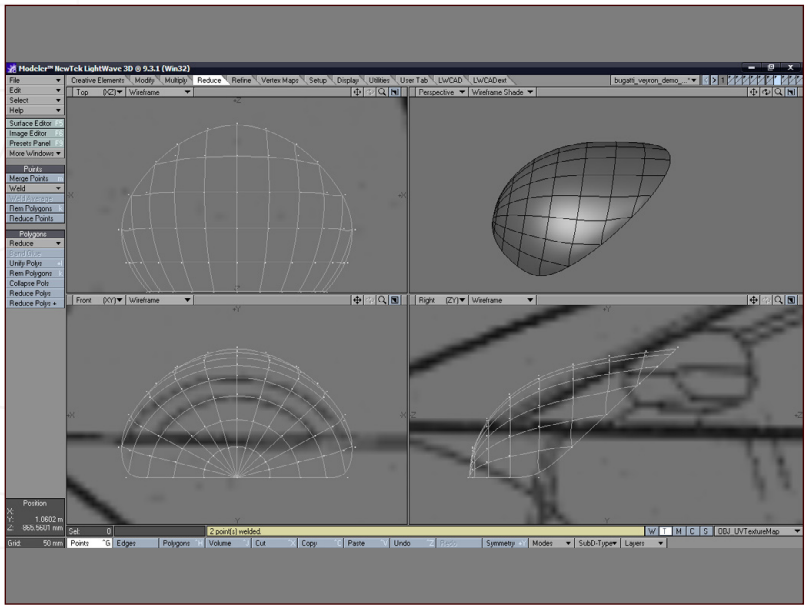


Fig 53

Weld the corner points to achieve all quads (or triangles) (**Fig.53**).

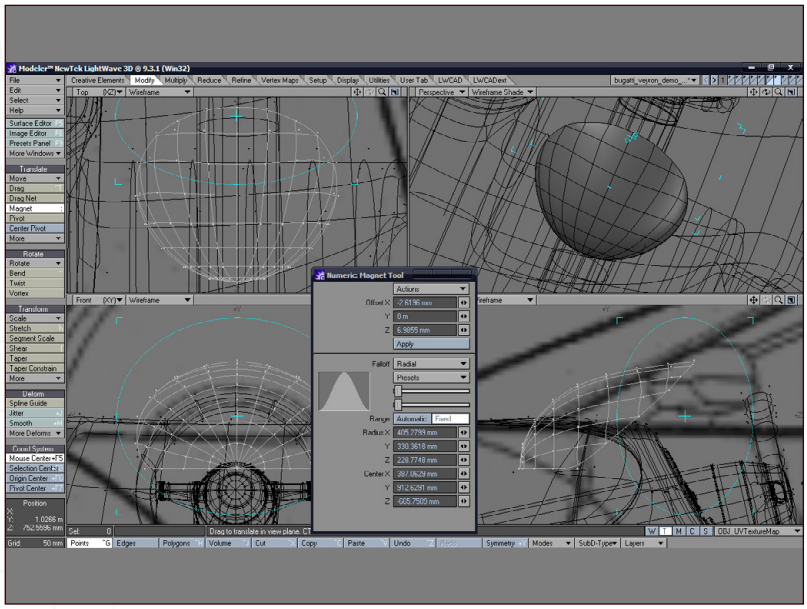
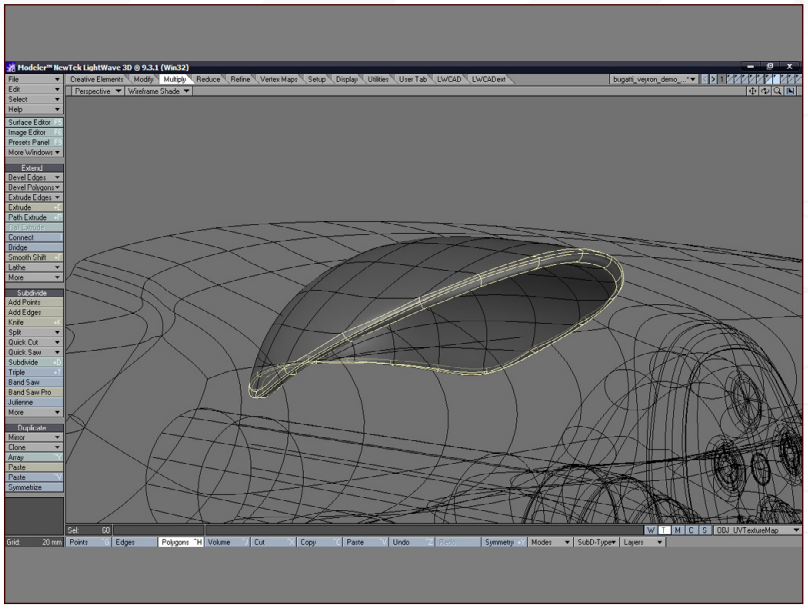


Fig 54

Use the Magnet tool in top view to reshape the upper part to a more shell-like shape (**Fig.54**).

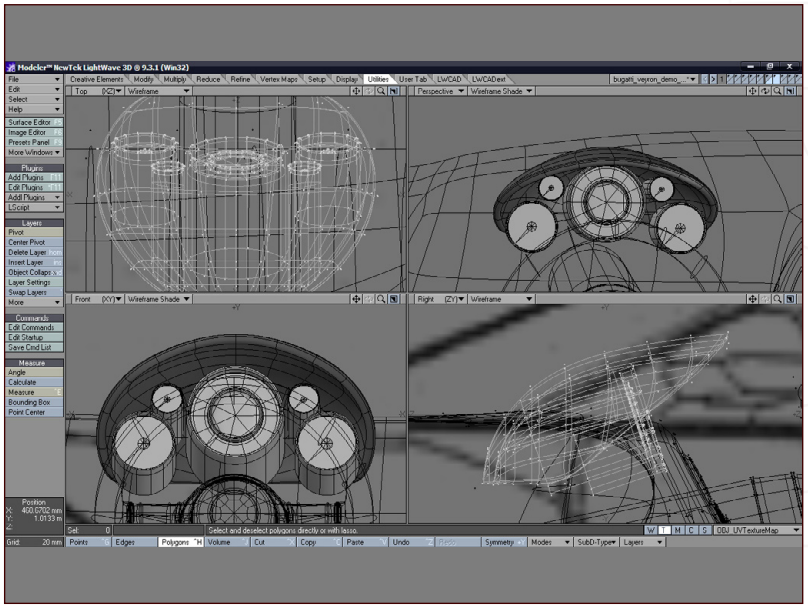
Select the polygons and copy and paste them once. Flip them and smooth shift them to give them some thickness. Weld the points and add another cut closer to the upper side. This is a very simple and elegant technique to make things thick! (**Fig.55**)

Fig 55



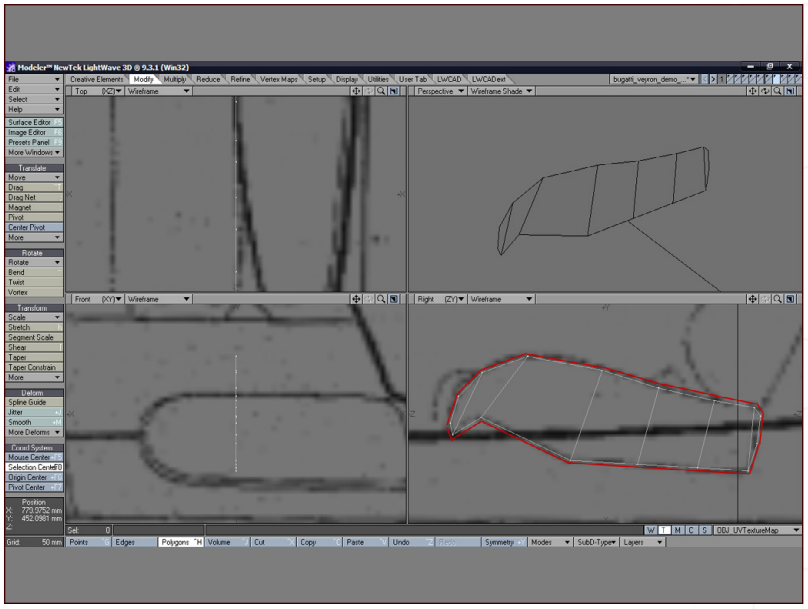
Use the simple cylinders extended at the top to make the instruments. This is pretty much the same technique that we used for wheel holder (**Fig.56**).

Fig 56



In side view, use the Pen tool to make the shape of the bottom seat part. Split the shape into 4-sided polygons (**Fig.57**).

Fig 57



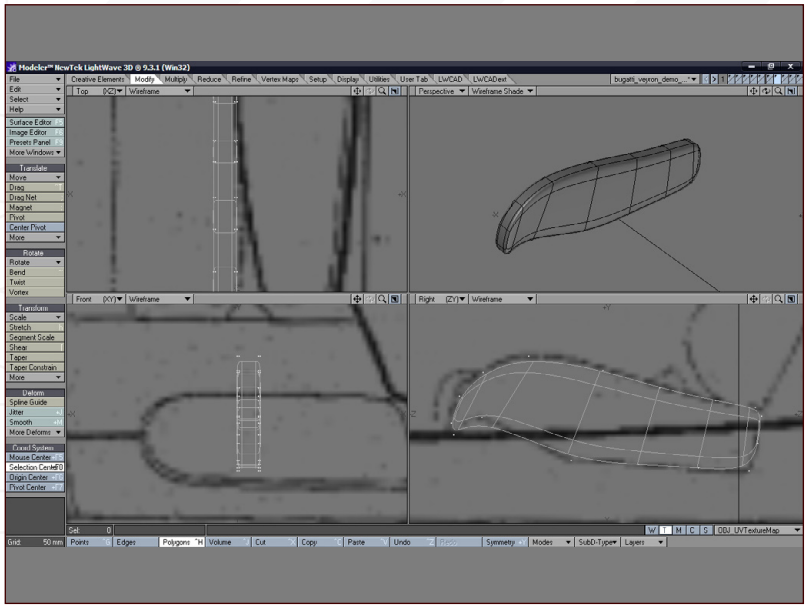


Fig 58

Extend the part to the side and make its edges a little sharper (**Fig.58**).

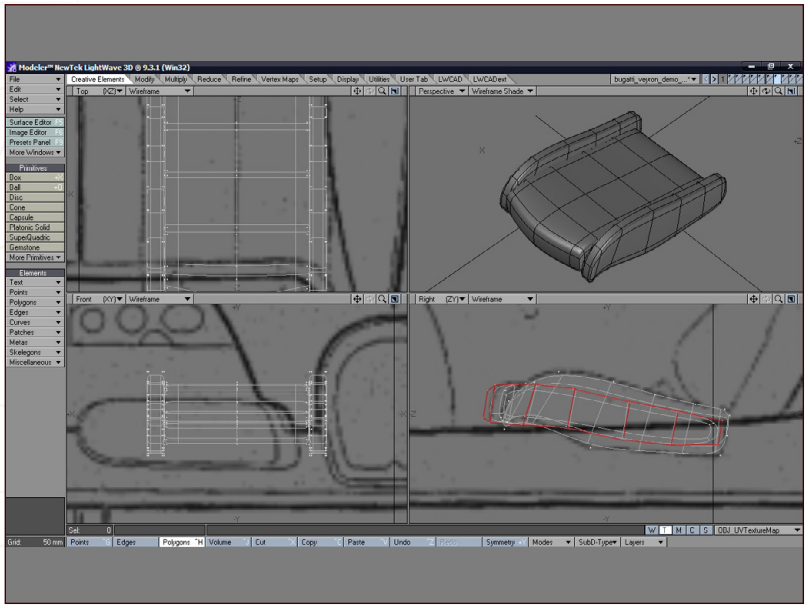


Fig 59

Use the same technique for the centre part… (**Fig.59**).

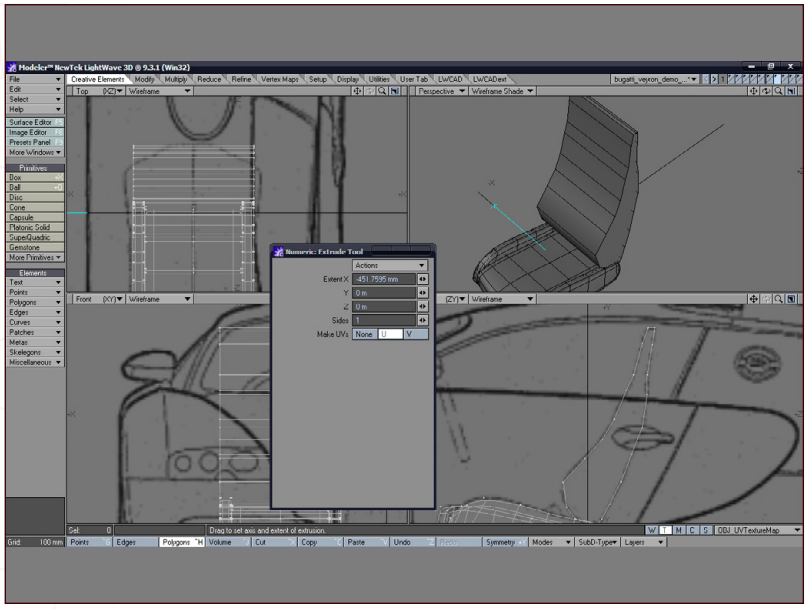
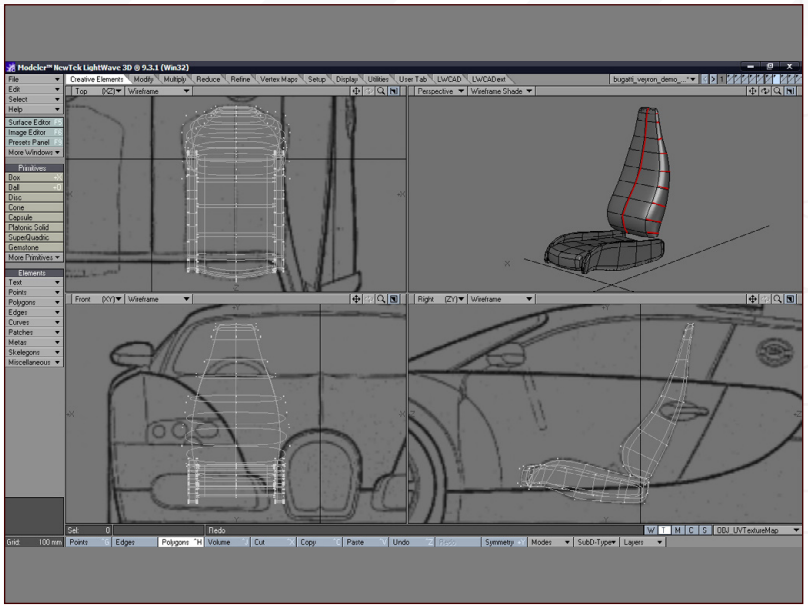


Fig 60

…and for the back part! (**Fig.60**)

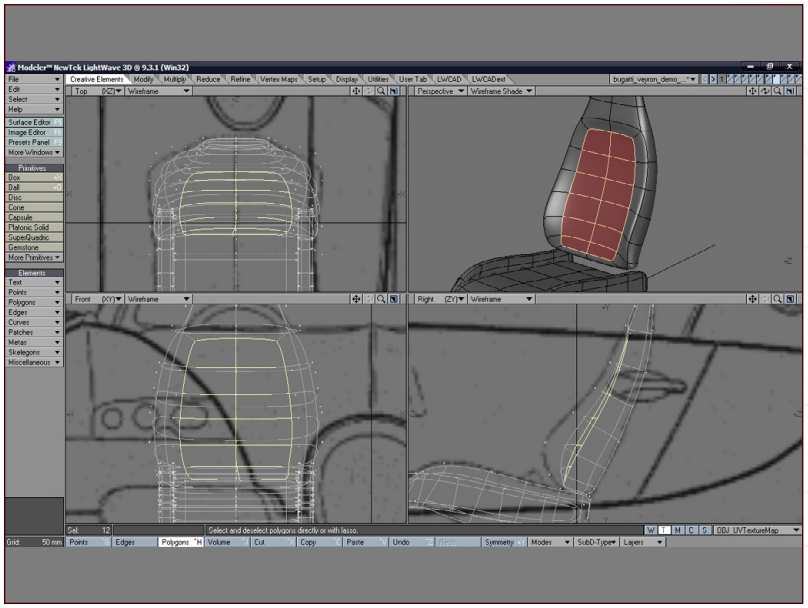
Cut in the middle and on the side so that you have all quad polygons (**Fig.61**).

Fig 61



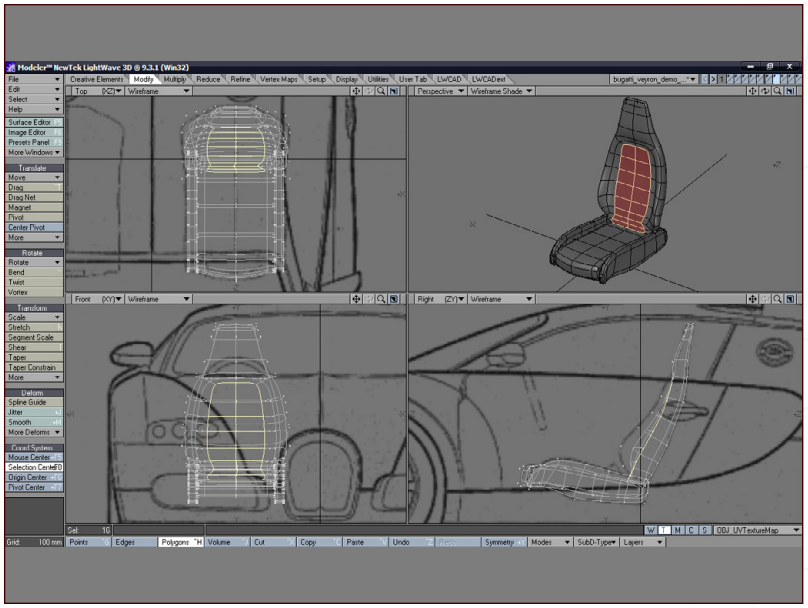
Select the polygons shown in the image and extend them and move them inwards (**Fig.62**).

Fig 62



Do the same thing here, only with two rows more at the bottom (**Fig.63**).

Fig 63



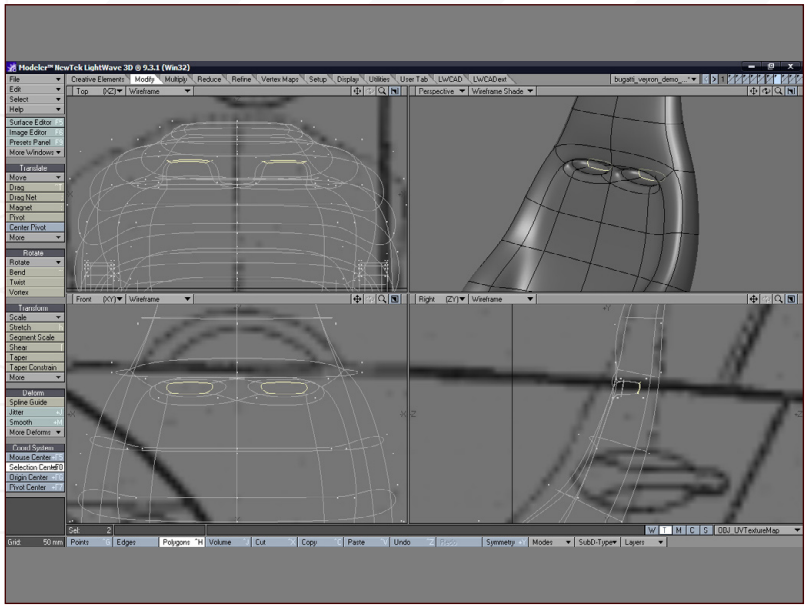


Fig 64

Extend the polygons in the image inwards (**Fig.64**).

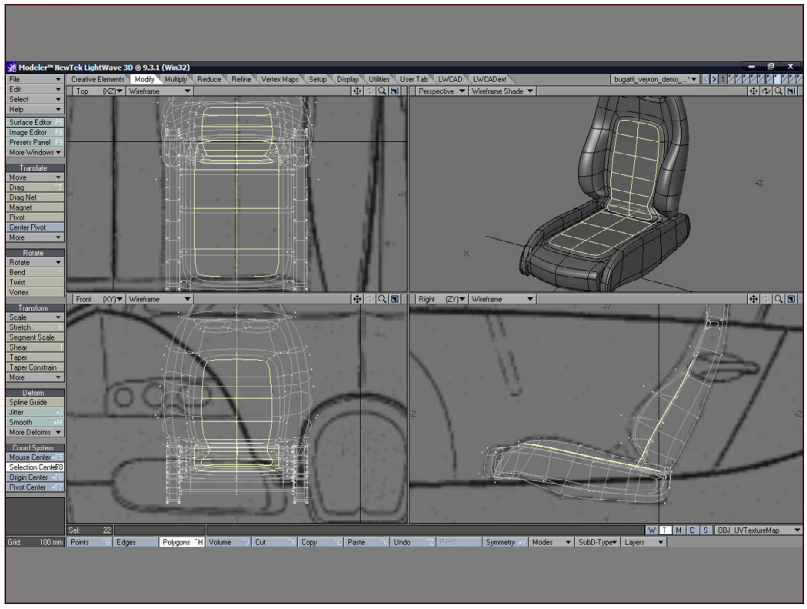


Fig 65

Select the polygons shown in the image and then extend and move them out a little (**Fig.65**).

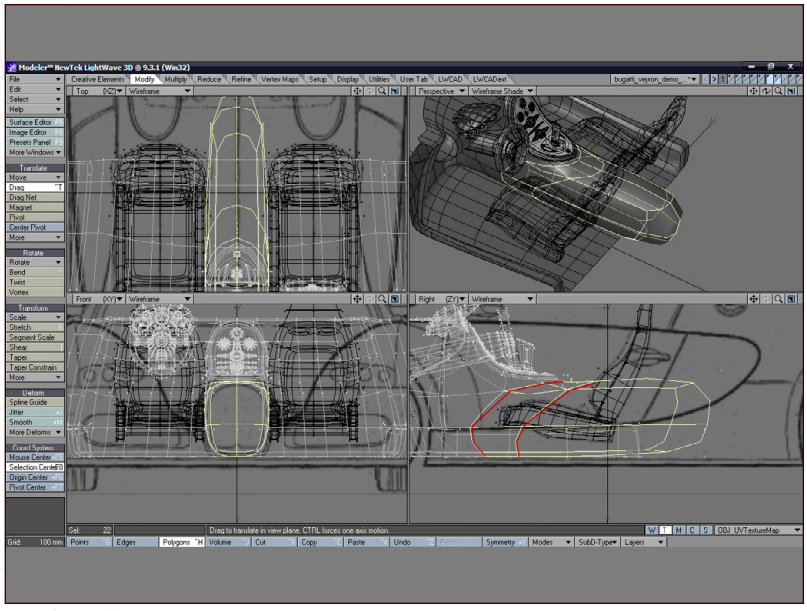
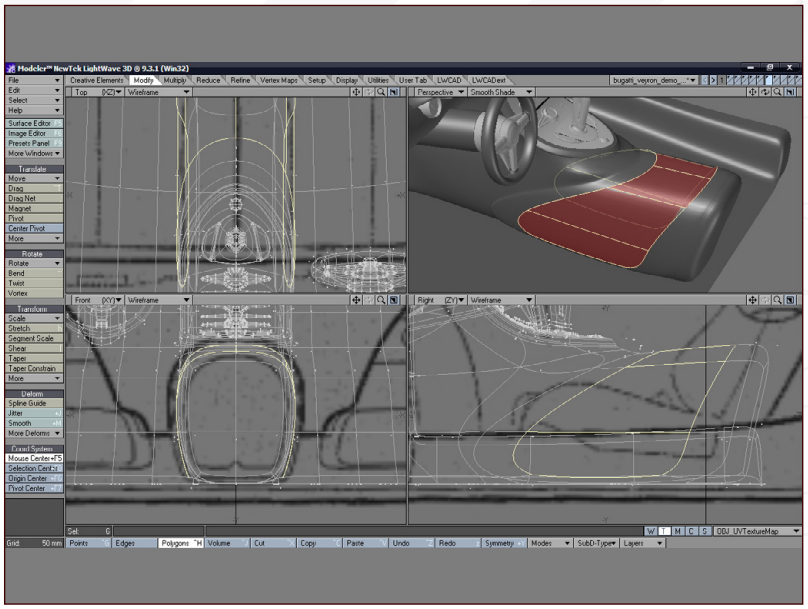


Fig 66

Using the Drag tool, refine the polygons of the centre part to get a shape like in the image (**Fig.66**).

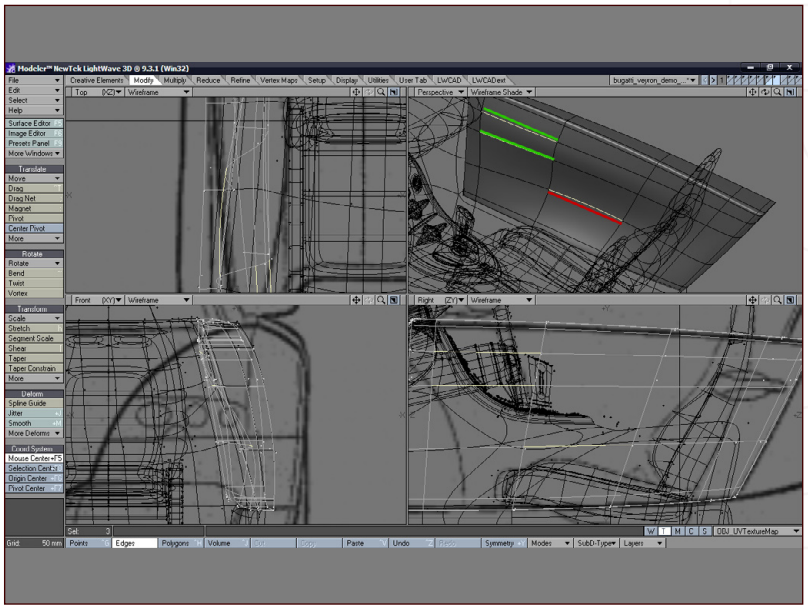
Select the marked polygons then extend them and move them up a little (**Fig.67**).

Fig 67



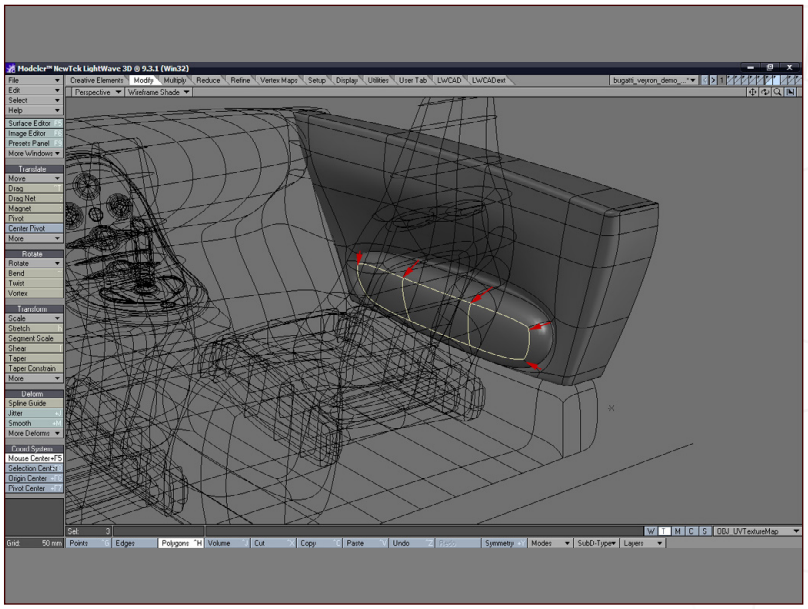
Move the green marked edges further into the car, and the red marked one outwards, to make some space for the door handle (**Fig.68**).

Fig 68



Extend the 3-sided polygons outwards, like in the image (**Fig.69**).

Fig 69



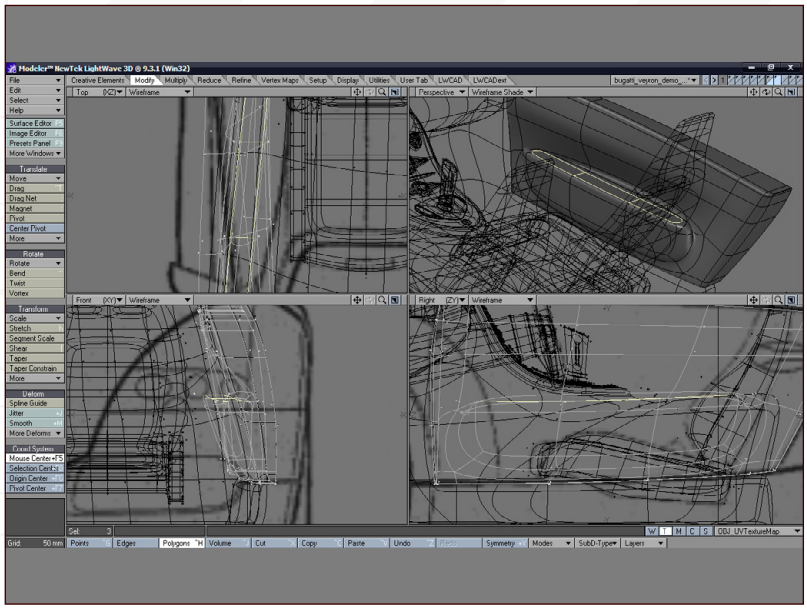


Fig 70

Extend the top 3 polygons upwards (**Fig.70**).

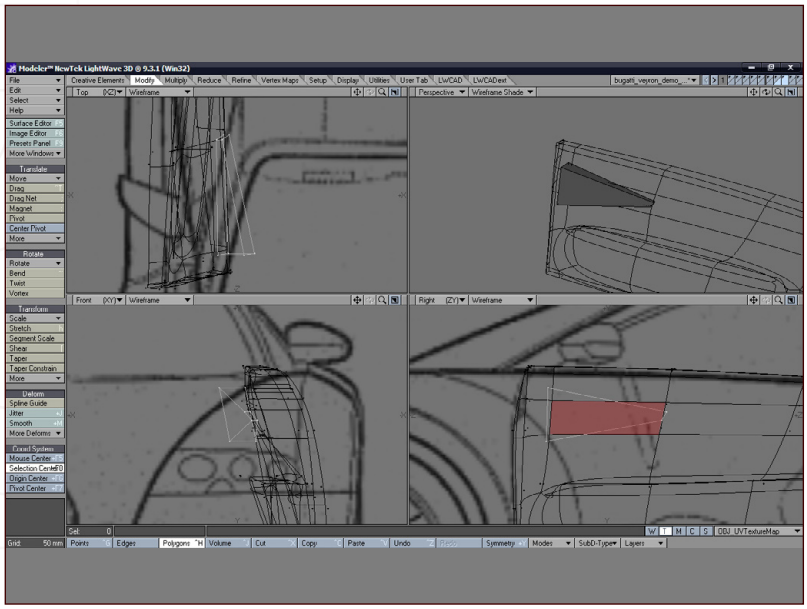


Fig 71

Copy the red marked polygon onto another layer and drag the points of it to a more triangular-like shape. Extrude it to make it thicker (**Fig.71**).

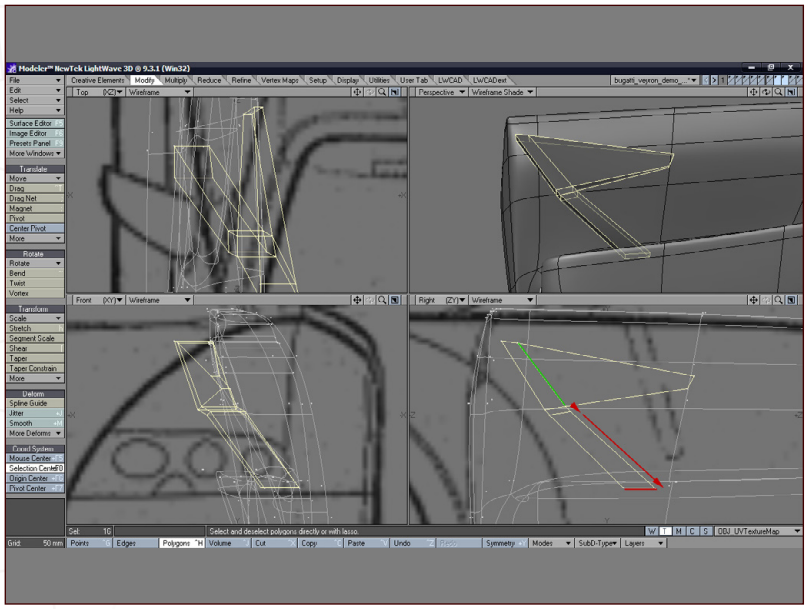
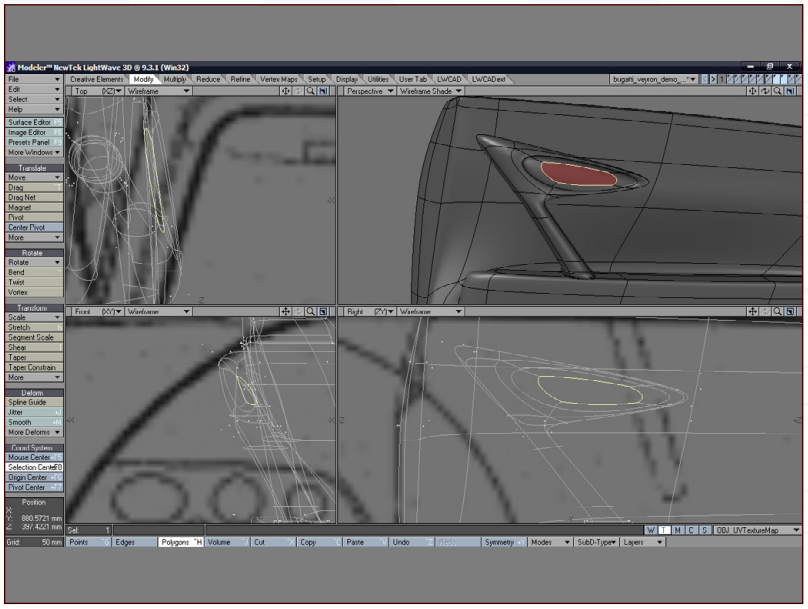


Fig 72

Add a cut on the wider side and extend the red marked bit downwards (**Fig.72**).

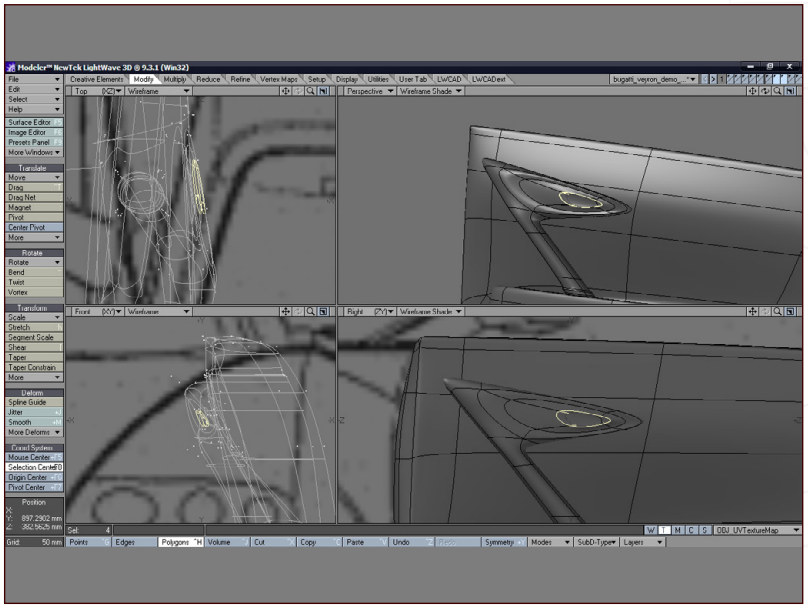
Select the red marked polygon and then extend it and move it towards the door a little (**Fig.73**).

Fig 73



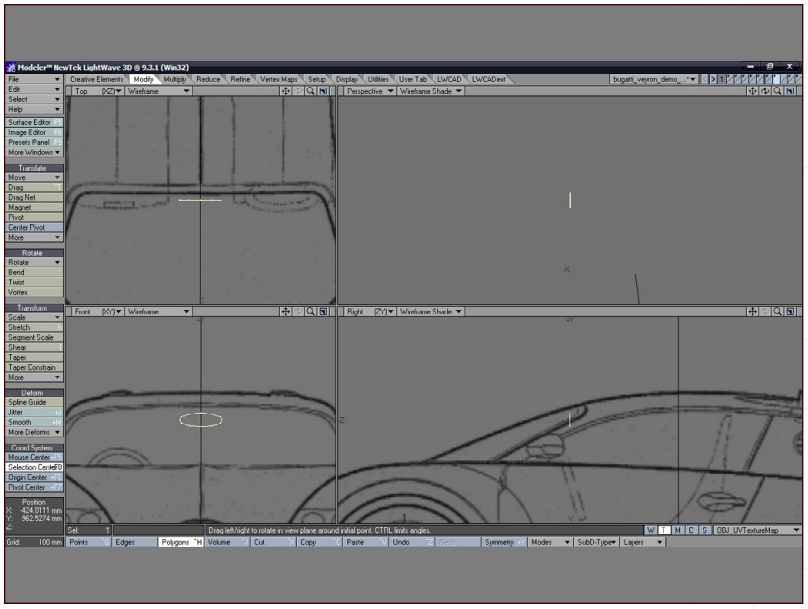
Select the polygons around the polygon we just extended. These are the polygons that were created by extending it. Extend them and scale them downwards (**Fig.74**).

Fig 74



Make a 12-sided polygon and stretch it to get an oval shape (**Fig.75**).

Fig 75



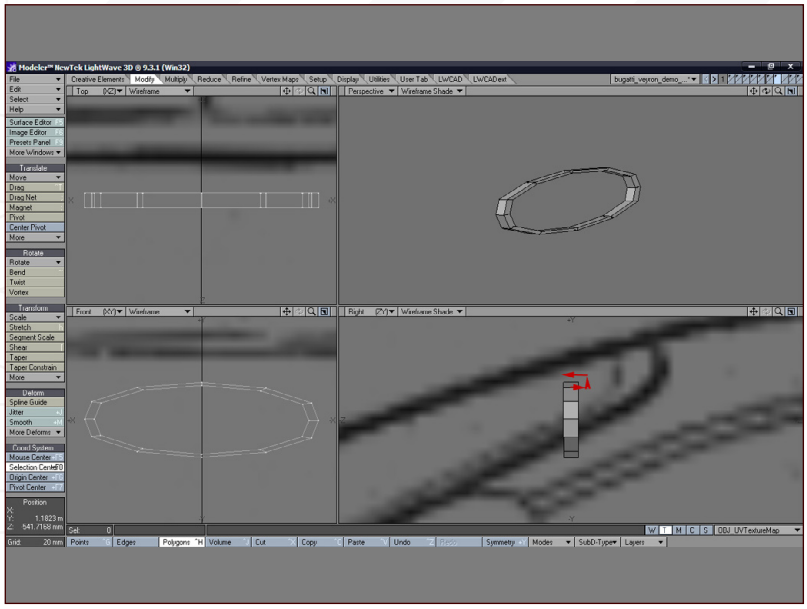


Fig 76

Extend the polygons to create a rim (**Fig.77**).

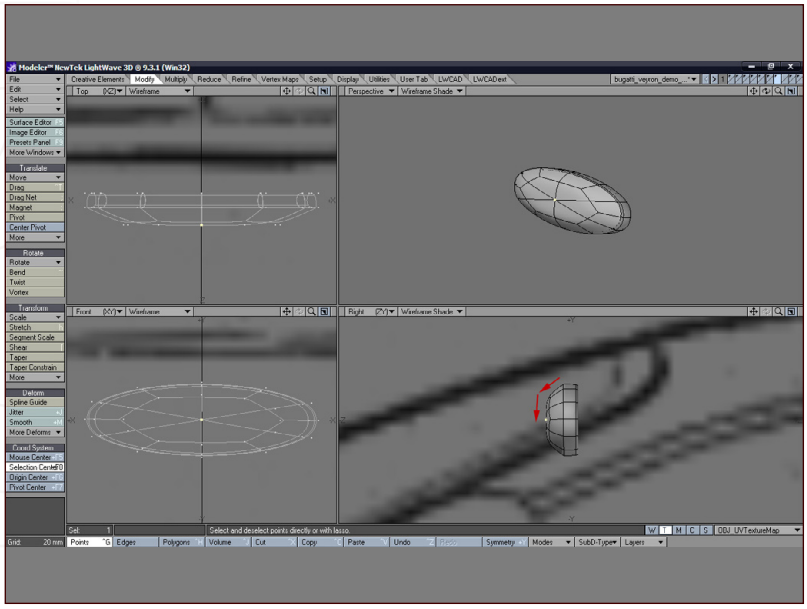


Fig 77

Extend the polygons again to make the back side (**Fig.707**).

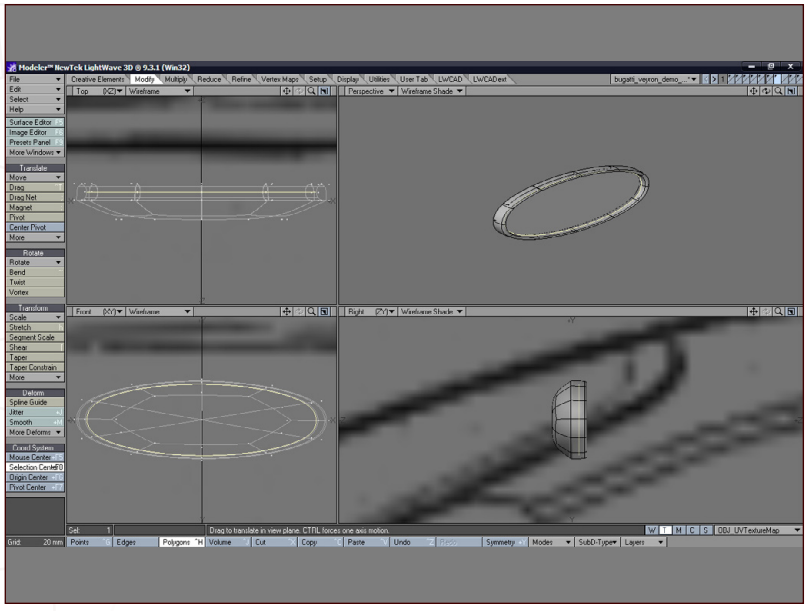
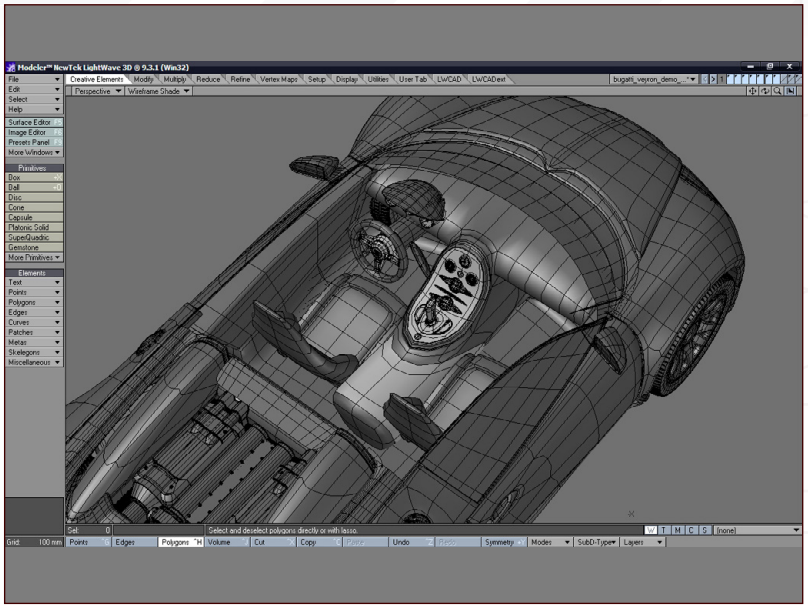


Fig 78

Place the mirrored polygon into it and the centre mirror is in place! You might want to rotate it so you can see it better, though (**Fig.78**).

With this step we are concluding the modelling part of the Bugatti Veyron tutorial series. Interiors, of course, have much more detail, but we have addressed only those ones that might be visible from outside of the car. If you are planning to do interior shots, it would be a good idea to make another model with detailed interior parts, in order to avoid heavy models. In the next part we are going to assign surfaces and materials to our Veyron model. Thank you!

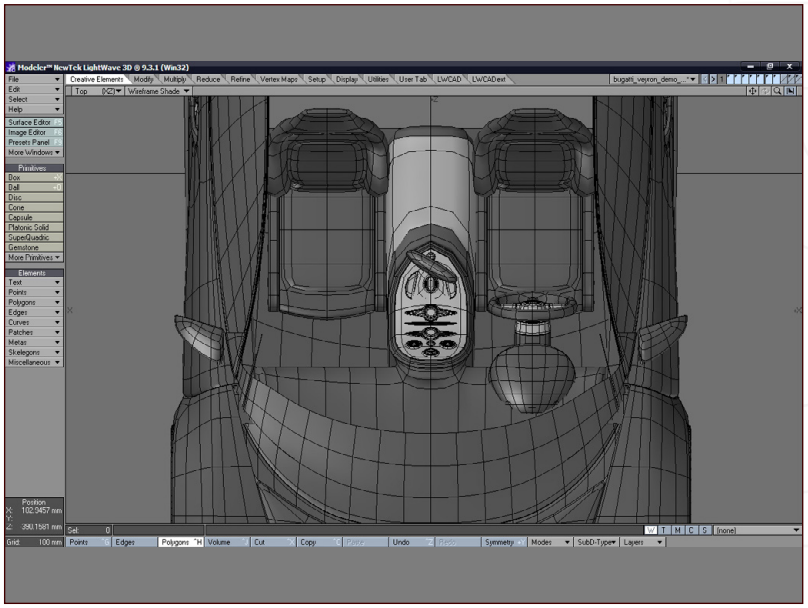
Fig 79



BUGATTI VEYRON
PART 5 - INTERIOR

Tutorial by:
VOJISLAV MILANOVIC
For more from this artist visit:
http://www.vojislavmilanovic.com/
Or contact them:
vojo@teol.net

Fig 80



car modelling series

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

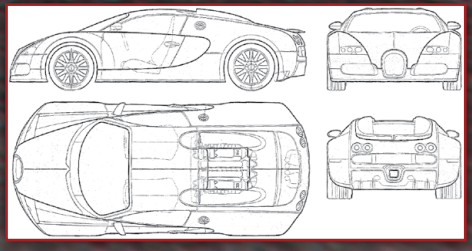
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

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BUGGATTI VEYRON
PART 5 - INTERIOR

Welcome to the fifth part of the Bugatti Veyron tutorial and the last part involving modelling. This part will mainly focus on giving the cabin a basic interior. As always it is up to you how far you wish to take the detailing – which is mainly decided by how you wish to render your model. Also, you should have learnt enough by now to add any extra detail that has been missed (inside or out) because a model is never 100% complete – sometimes you have to stop modelling or you could tweak a model forever! Well, with that out of the way, let's get started.

Let's begin by creating the interior lip where the door sits. This can be accomplished using several extrusions – **Fig 01** shows the start of this process. Creating the lip for the door is quite an involved process and requires going back and forth between the various areas that make up the lip. So take it slowly and don't rush yourself and you'll be fine.

Next, we'll add the rubber seal that runs around the outside of the door opening. This is created simply by extruding off of the original geometry, extracting the new faces and then creating new faces that run around the outside of the opening (**Fig 02**).

Once you are happy with how the seal is looking, extrude the inner and outer edges in towards the interior. Then cap the faces and apply bevels all the way around, adding in any necessary cuts required to get the seal looking correct (**Fig 03**).

Fig 01

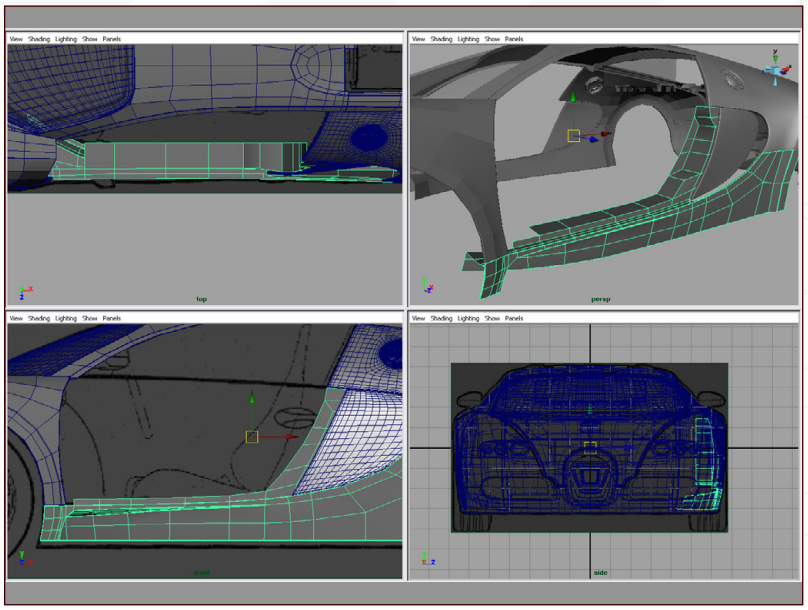


Fig 02

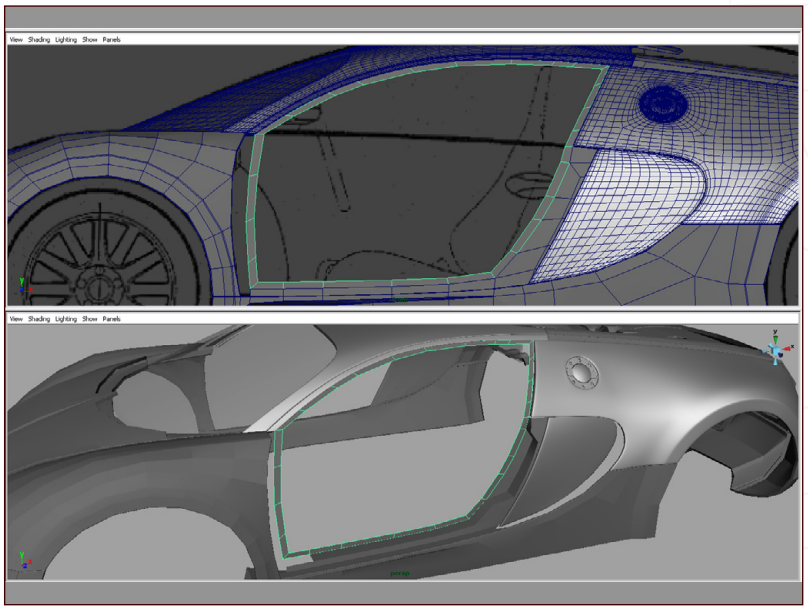
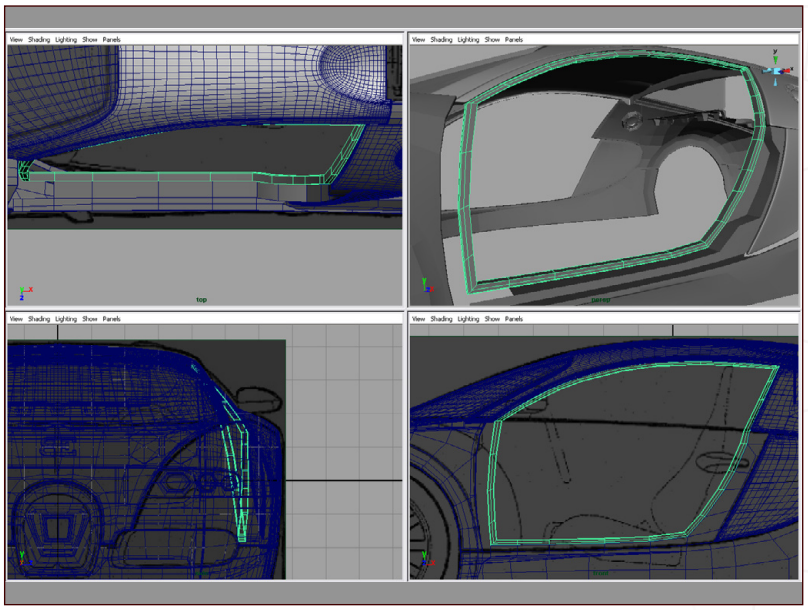


Fig 03



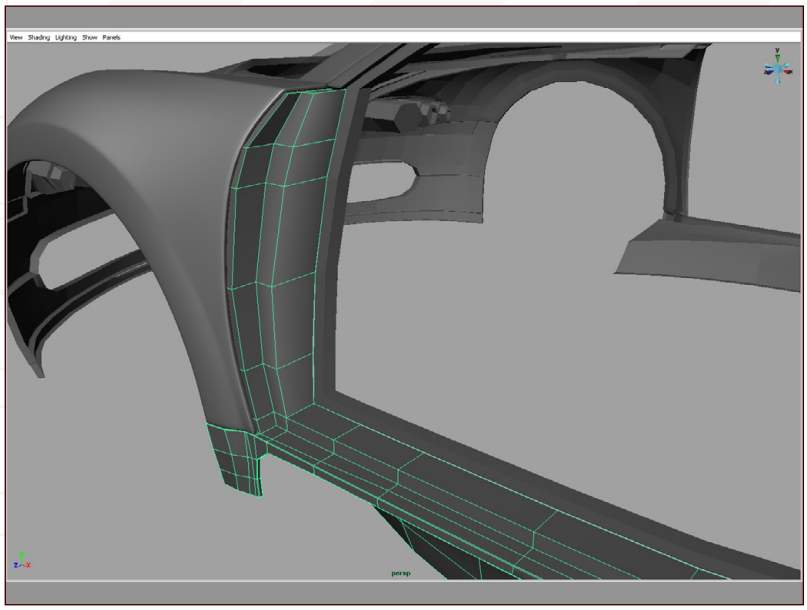


Fig 04

Fill in the area where the front of the door sits (**Fig 04**) – I struggled to find references for this area, so just make it look nice and plausible.

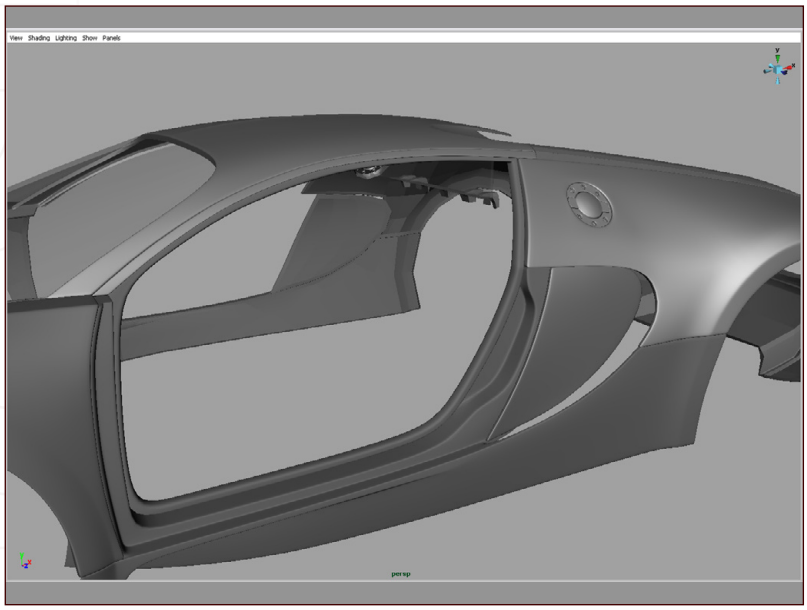


Fig 05

Then it's just a case of bevelling these new edges on this panel and closing any gaps between the side panel and the plastic seal (**Fig 05**)

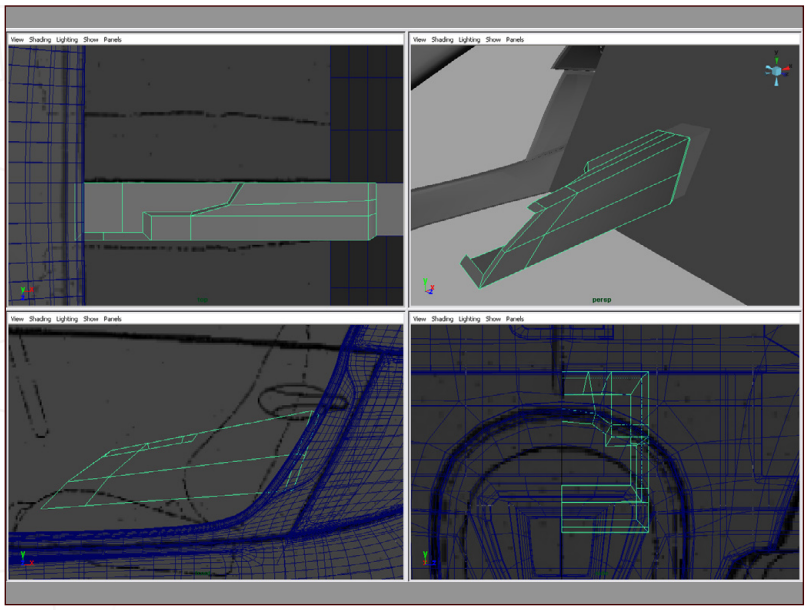
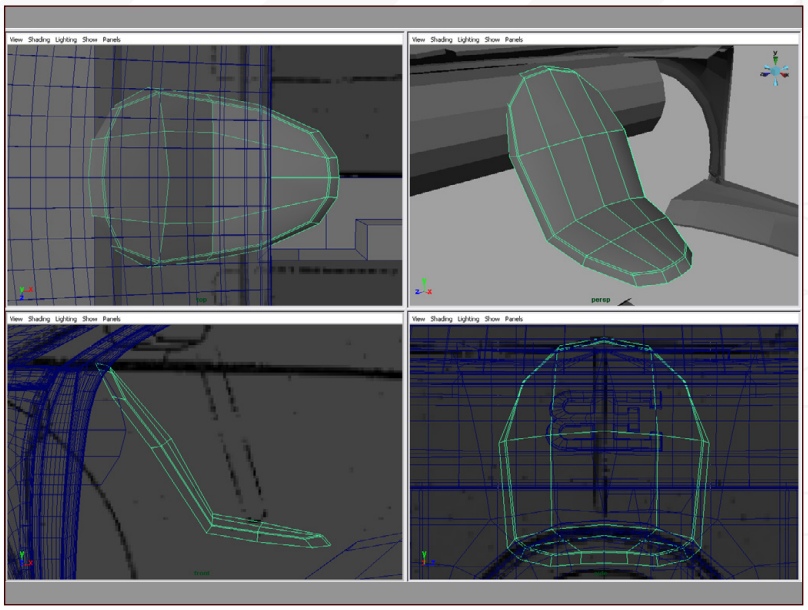


Fig 06

Let's work on the dashboard and centre console and then we will close up any gaps in the mesh and create the flooring and roof lining. Probably the best way to approach the dash is to model it as a symmetrical piece and then add in any unsymmetrical pieces. I suppose the best place to start is with the back part of the centre console and then work your way forward. Create a box and split it in half and then shape the box to represent the middle console (make sure to use your references and blueprints). You may find it a bit easier to shape this piece if you add in a poly plane to represent the back wall, so that you can visualise how far back you can go – your initial shape should look something like what is shown in **Fig 06**.

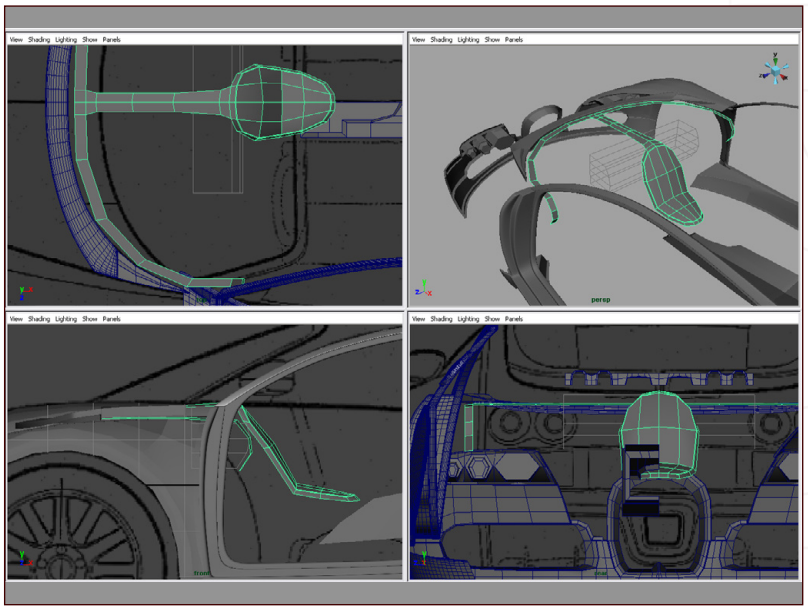
You could also create a mock piece of geometry to represent the dashboard (I find that this helps me visualise what I'm modelling towards), and then create the centre console where the gear stick sits (**Fig 07**). The top two edges of this piece should be extruded towards the window making sure not to pass through the window. Run this extrusion right up to the edge of the window but leave a gap when building the dashboard because this piece runs all around the edge of the window and the dash.

Fig 07



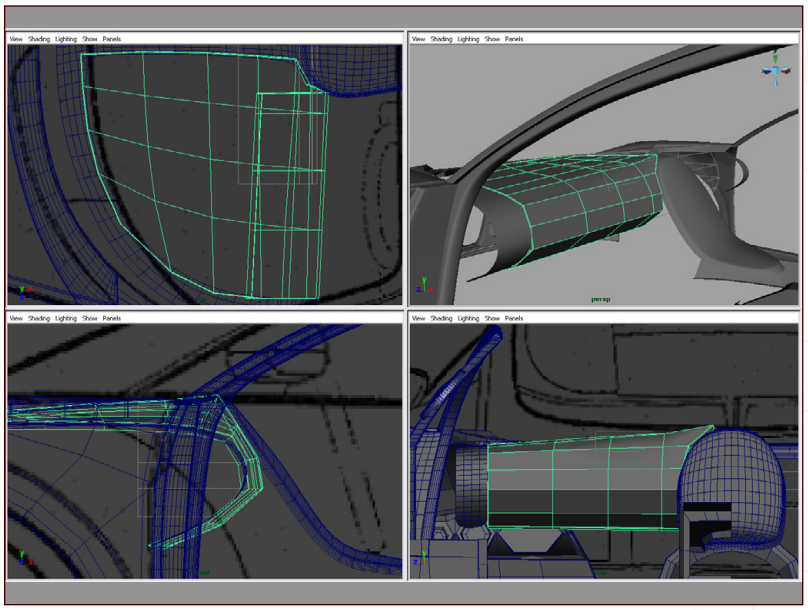
Let's wrap this piece around where the dash will sit (**Fig 08**) – you don't have to nudge the mesh right up against the window, another piece of geometry will close any gaps between the dash mesh and the window.

Fig 08



Once you're happy with this piece, you'll be able to create the dash board which is created from a polygon that has been sliced up and reshaped (**Fig 09**).

Fig 09



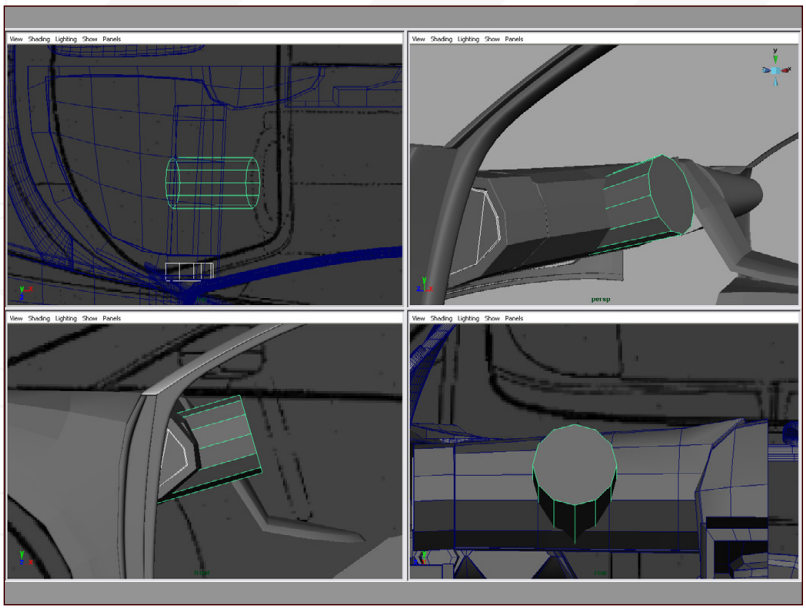


Fig 10

We're only creating a basic interior for the sake of this tutorial so just tuck it in towards the front of the car and mirror it to the other side. Give the geometry that runs around the dash some thickness, create a new piece of geometry that closes the gap where the door opens and create a steering column out of a cylinder (**Fig 10**).

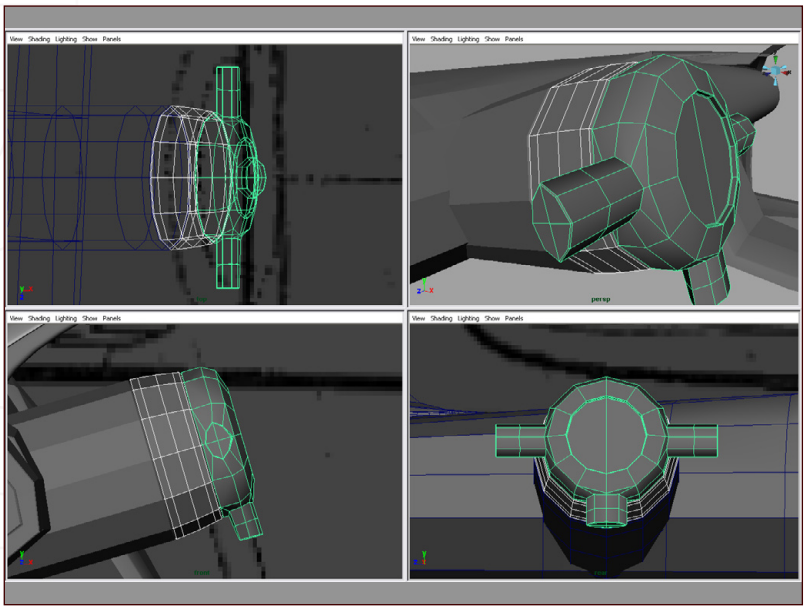


Fig 11

Create another cylinder for the steering wheel holder and then create the steering wheel, extruding the outer faces to create the three spokes of the steering wheel (**Fig 11**).

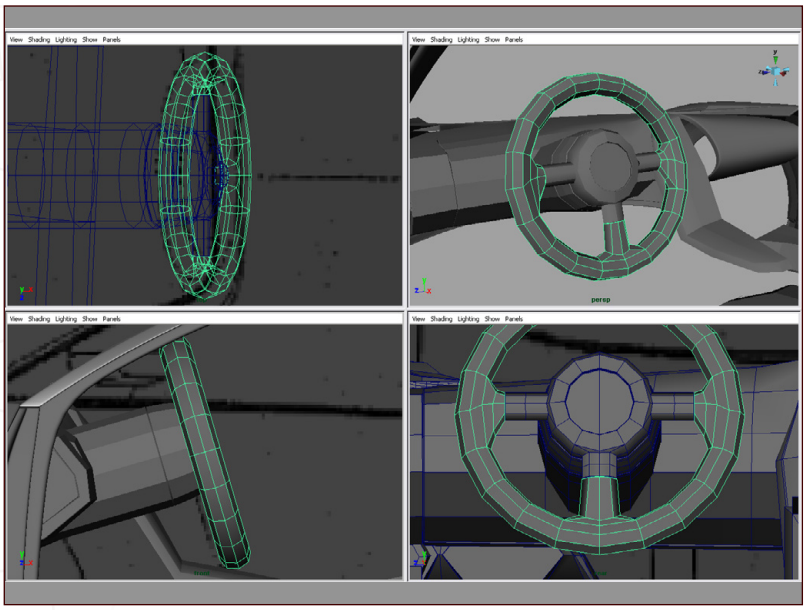
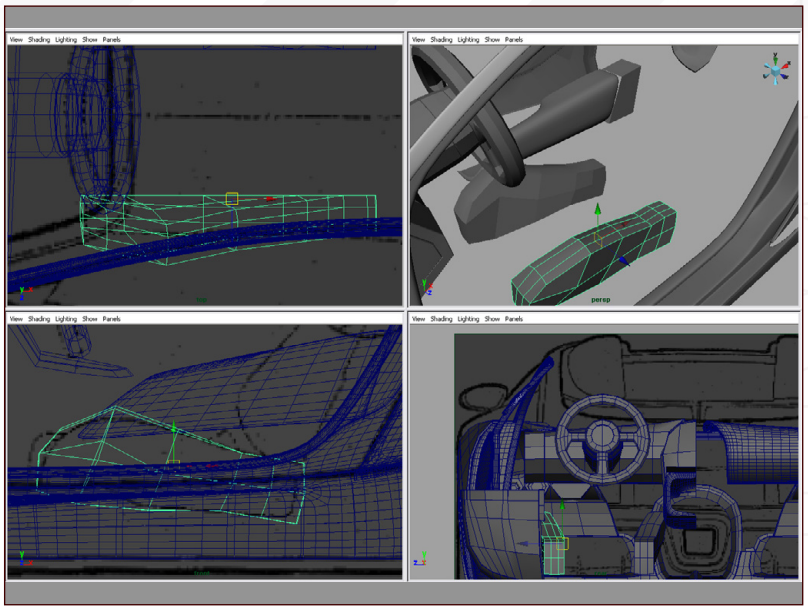


Fig 12

To finish of the steering wheel, create a torus and then just extrude faces out to close the gap between the wheel and spokes (**Fig 12**).

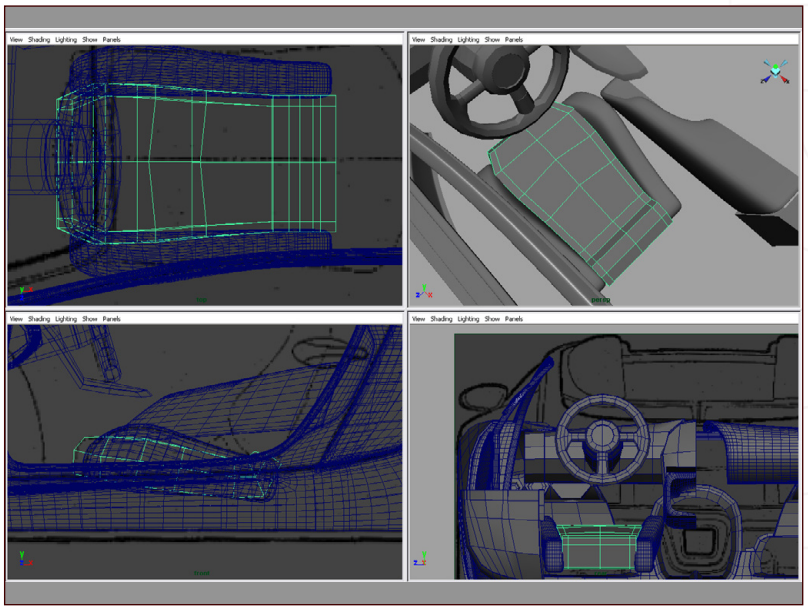
Let's create the seat next and then it's just a case of creating the floor and interior roof pieces. Create the sides of the chair from a modified cube primitive, keeping an eye on your smooth shape. Then duplicate this shape and slide it over to the other side of the seat, very close in to the centre piece (**Fig 13**).

Fig 13



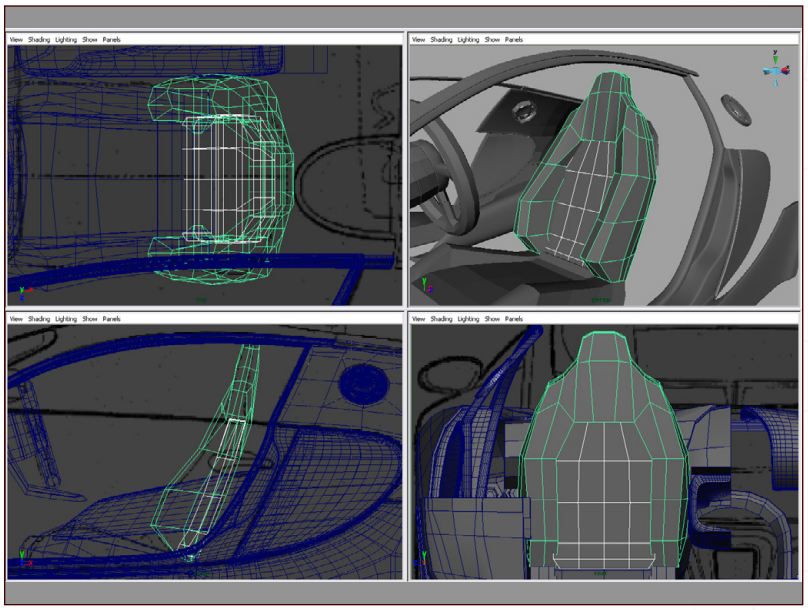
The same technique is used to create the inner cushioning of the seat (**Fig 14**).

Fig 14



Create the upper cushioning in exactly the same way (**Fig 15**).

Fig 15



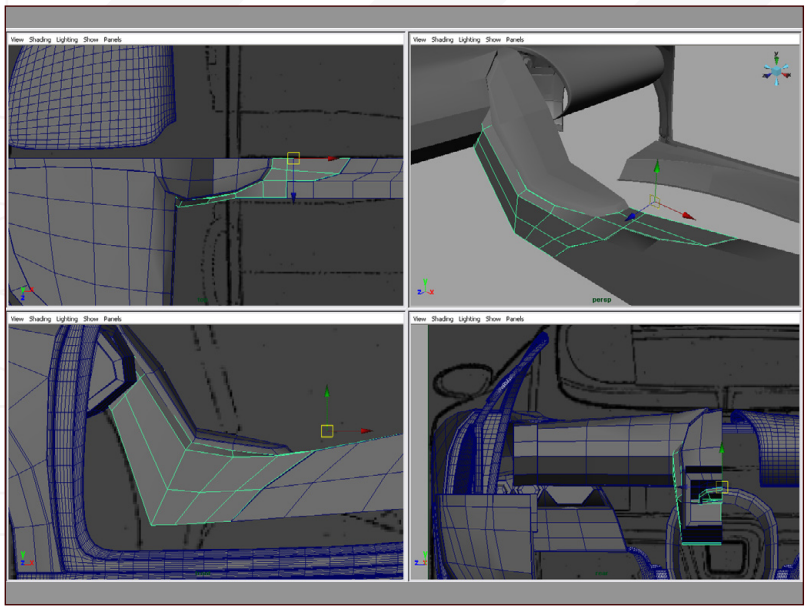


Fig 16

Fill in the gap between the centre console and the central arm rest piece with yet another modified box. Make sure to try to match your extrusions with the edges of the existing pieces (**Fig 16**).

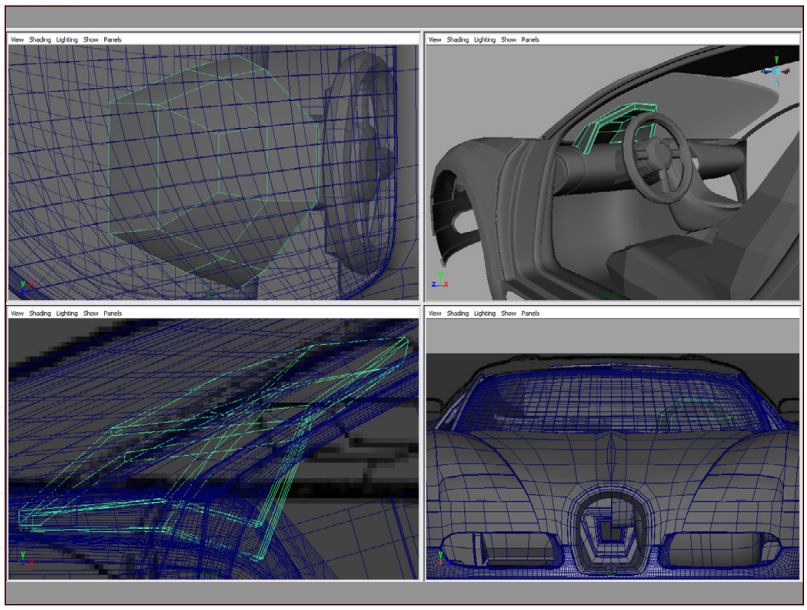


Fig 17

Now, the main interior is almost complete, it's just a case of creating the floor piece from a modified plane primitive and adding the steering wheel housing piece – a modified box (**Fig 17**).

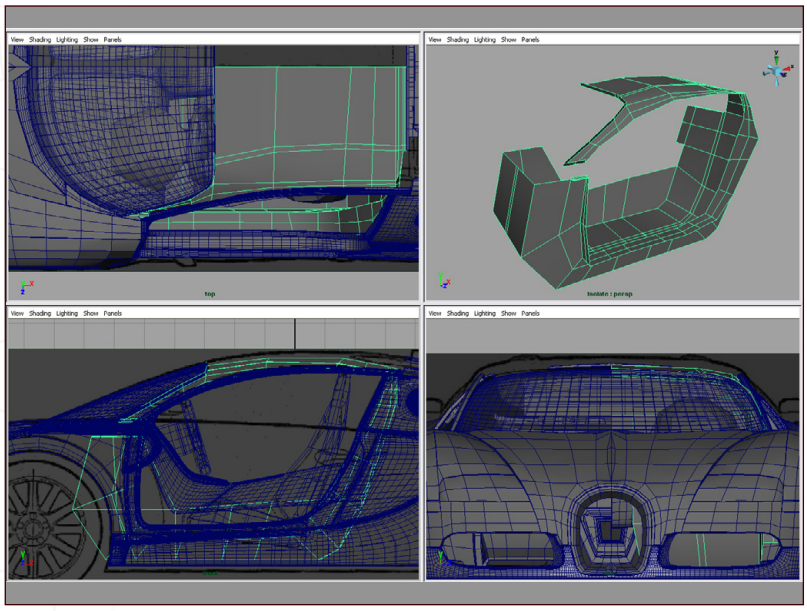
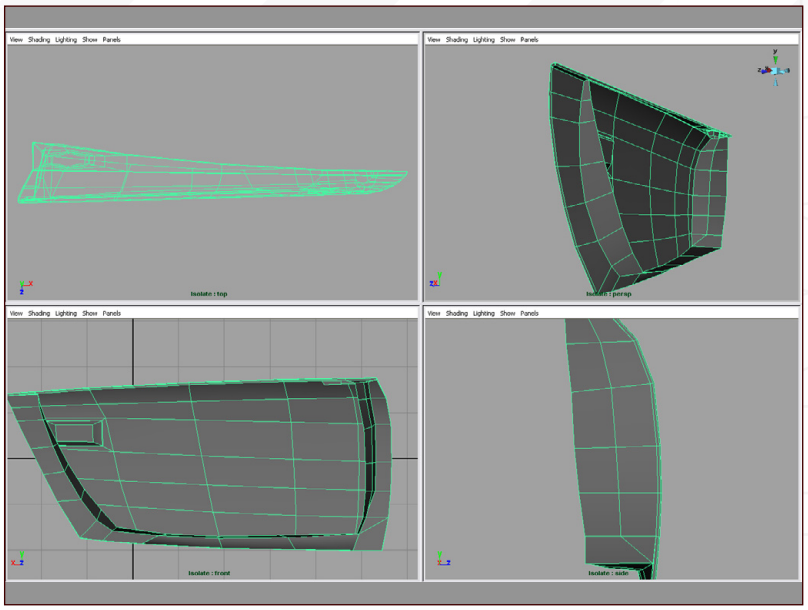


Fig 18

The floor and roof lining is created from a plane that has been shaped to encase the whole of the interior of the car. The aim of this piece is to simply close off the interior and cover any gaps, so it doesn't have to be 100% accurate as long as the viewer will not see any problem areas (**Fig 18**). The interior of the door is created with a modified box, I have only given it a very basic shape but you can add as much detail as required. The exterior door needs to be given some depth so that it joins up with the door interior. This is achieved with a number of extrudes and lots of shaping. This piece can be quite tricky and you may find it easier to remove the earlier bevels we applied to the door and then reapply bevels to the whole lot when happy with the shape.

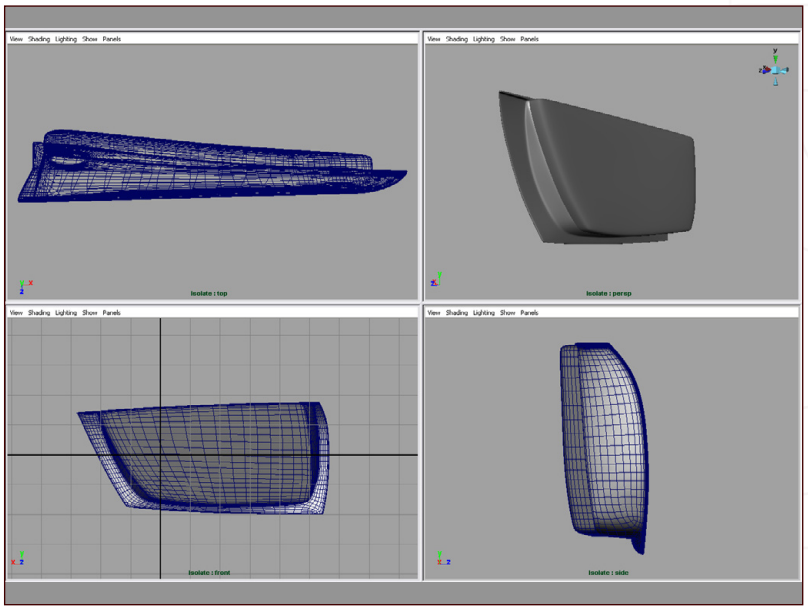
I continued with our original shape and got what can be seen in **Fig 19** as a result. It's a little messy but will work for us; in hindsight I should have removed the original bevels, but either technique works fine.

Fig 19



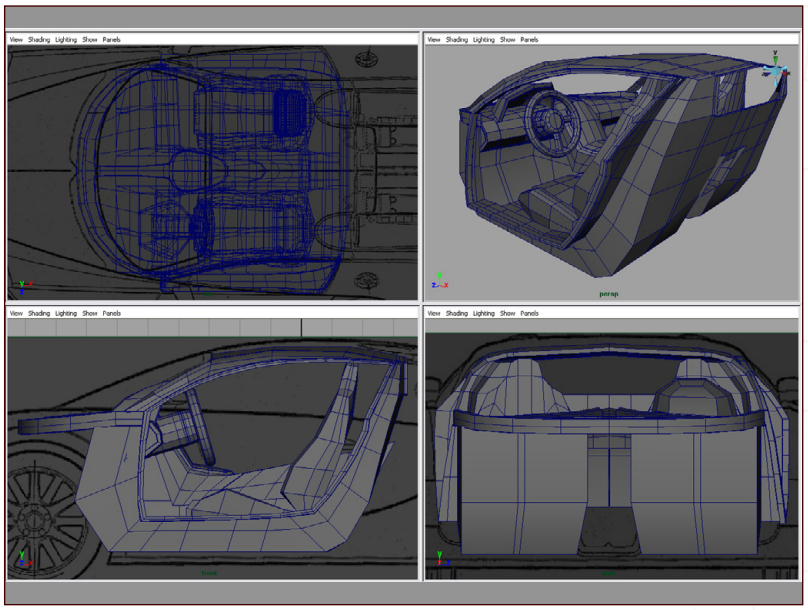
Now, in my case I just need to extrude inwards so there are no gaps between the door and cushion and add some more bevels (**Fig 20**).

Fig 20



With that done it is just a case of running a new piece of geometry between the dash piece and the windscreen and then mirroring the halved pieces and the interior is done and should look something like **Fig 21** & **Fig 22**.

Fig 21



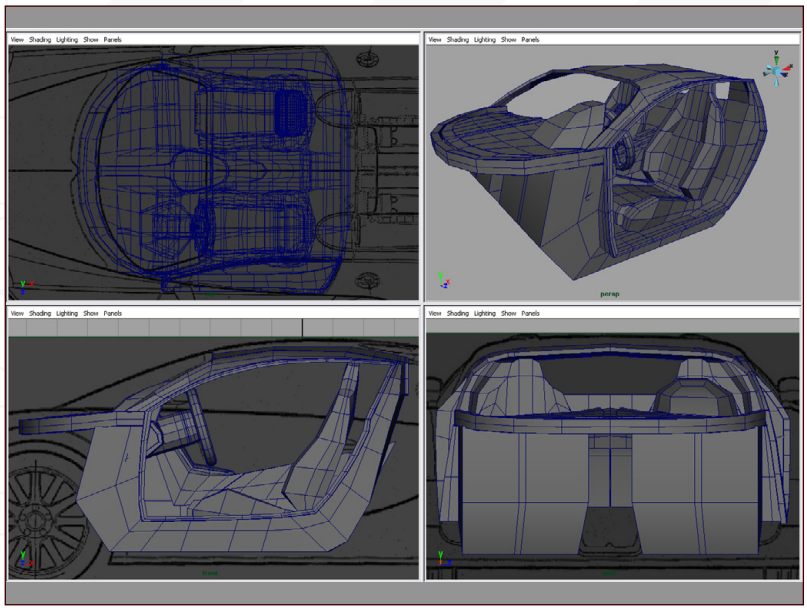


Fig 22

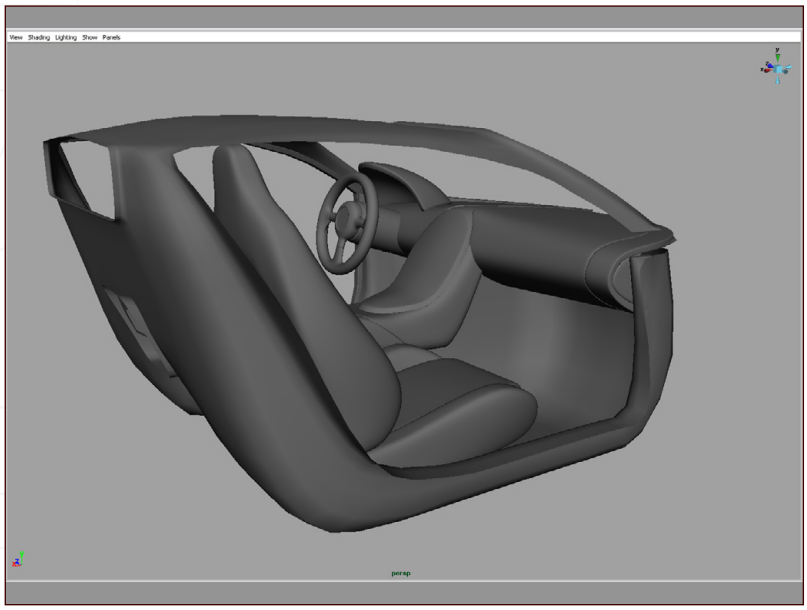


Fig 23

Fig 23 shows the smooth version. As mentioned this is a simplified interior for my car, so give it as much detail as you feel is necessary.

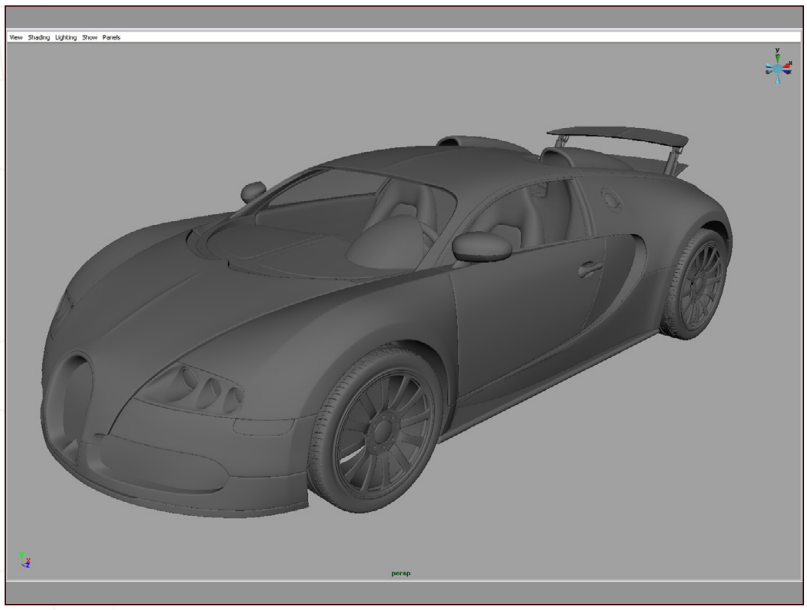


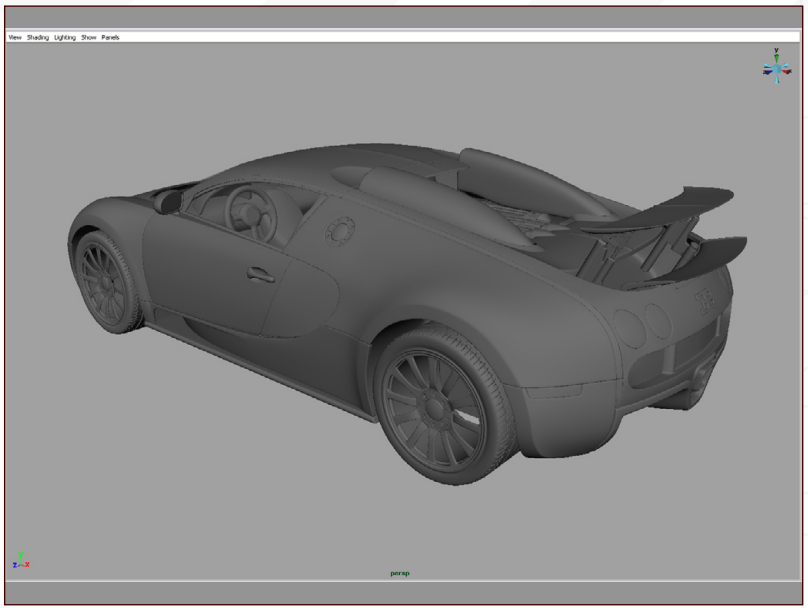
Fig 24

The very last thing that needs doing is to add some wheel wells – just use the Create Polygon tool to cover any gaps between the wheel arches and the interior of the car. Also, add some planes in all the grill panels so the viewer won't be able to accidentally see inside the car. The last few pictures show how the final model looks without textures (**Fig 24** & **Fig 25**).

BUGATTI VEYRON
PART 5 - INTERIOR

Tutorial by:
ANDREW HOBSON
For more from this artist, contact them:
andrewhobson2@gmail.com

Fig 25



Bugatti Veyron
car modelling series

SOFTIMAGE | XSI

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish, and will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. We will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to show a comprehensive guide to creating a finished car for people new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but does endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 030 February 2008
MODELLING THE CHASSIS - DETAILS

Issue 031 March 2008
LIGHTS, RADIATOR GRILL & VENTS

Issue 032 April 2008
WHEELS, TYRES & RIMS

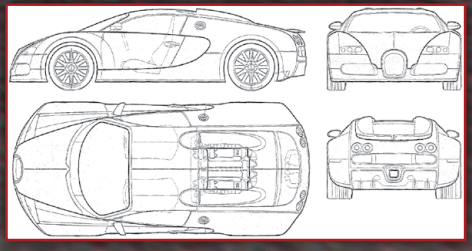
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

ENJOY ...

Blueprints available here:



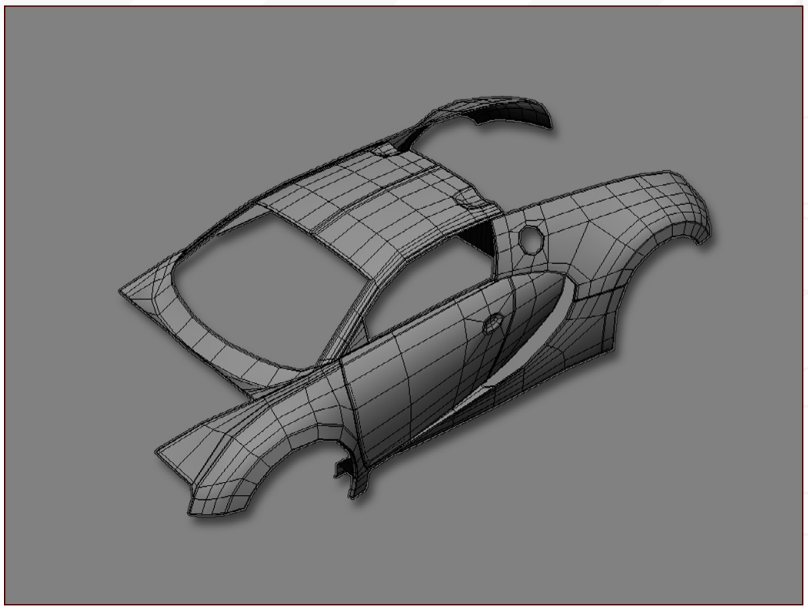
www.the-blueprints.com

BUGATTI VEYRON
PART 5: INTERIOR

Welcome to the fifth part of this car modelling series. This month, we'll take a look at how to make the interior and fit it inside the chassis mesh. The whole interior would be too much for only one episode, so I'm going to show how to make the main parts only. We are going to use the methods that I've shown in the previous series, so let's start!

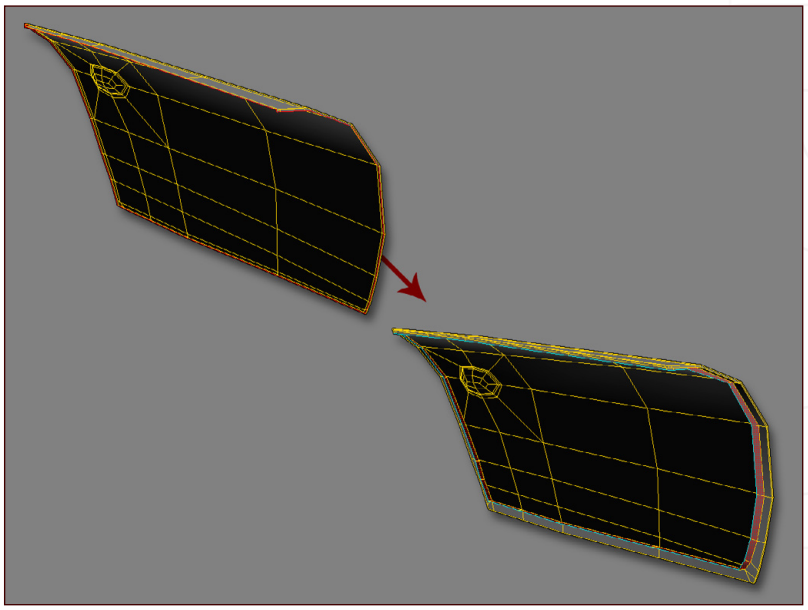
Let's hide those parts that we don't need and leave only those visible that have a connection with the inside of the car (**Fig.01**).

Fig 01



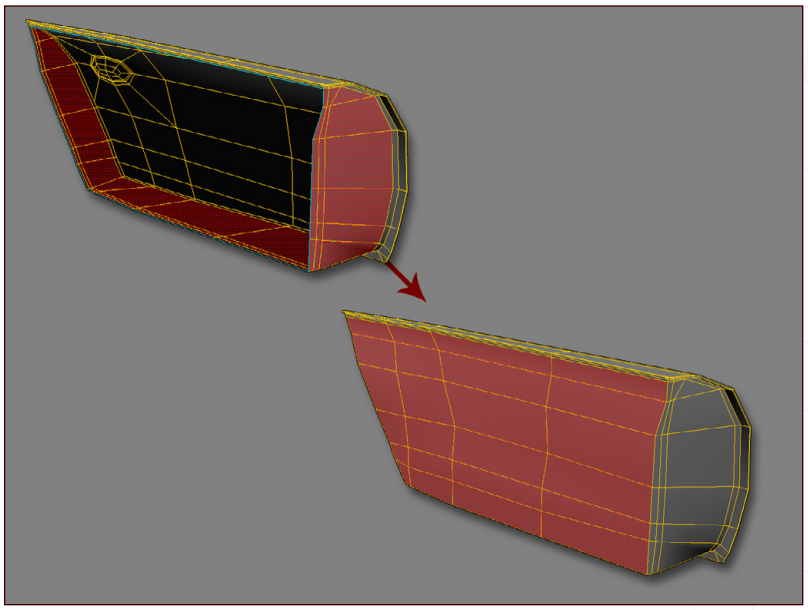
So let's begin with the door. Delete its rims where necessary; extrude it on the way of its Border Edges – first inside, then outside (**Fig.0**2).

Fig 02



Complete the side of it then cover the whole thing (**Fig.03**).

Fig 03



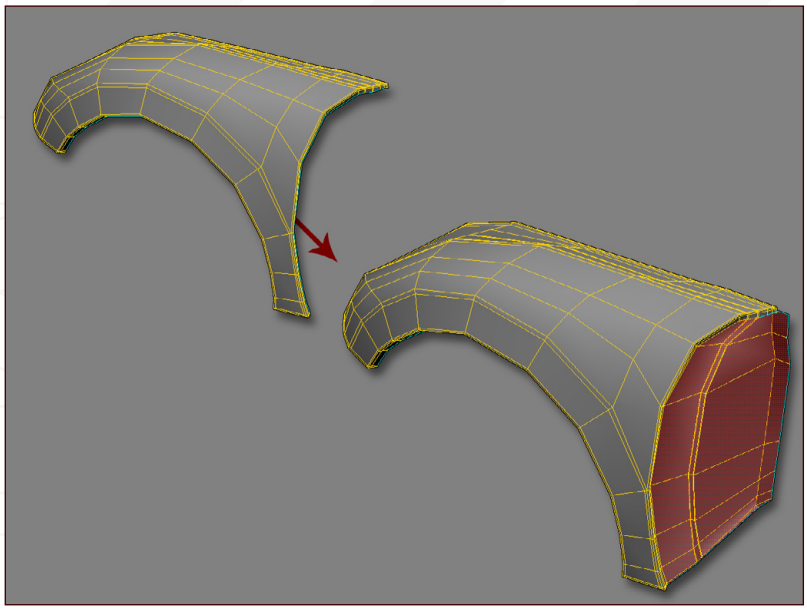


Fig 04

Use the same method for the surface at the meeting of the wheel arch and the door (**Fig.04**). Pay attention to the sides; we should remember that this is needed so that we can actually close the door if it were a real life model.

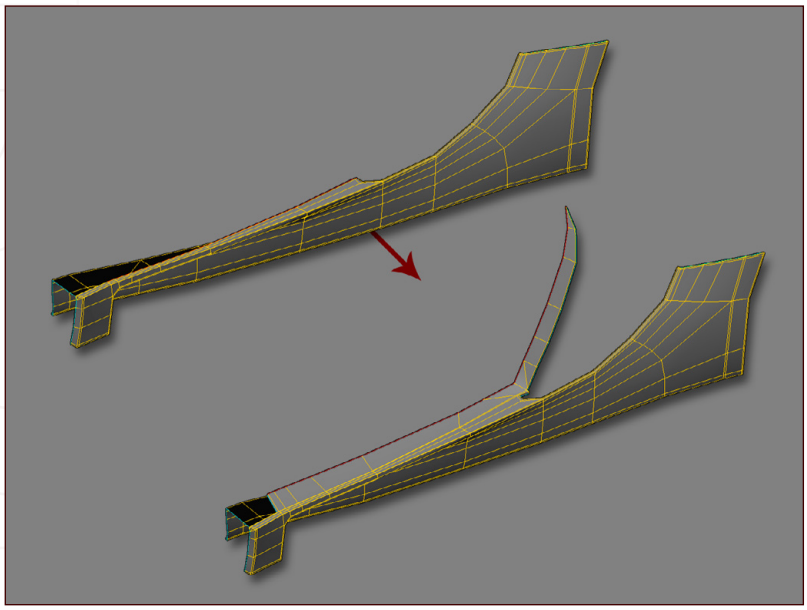


Fig 05

As we did before, let's make the surface under the door (**Fig.05**). Extrude out the edges, as shown in the picture.

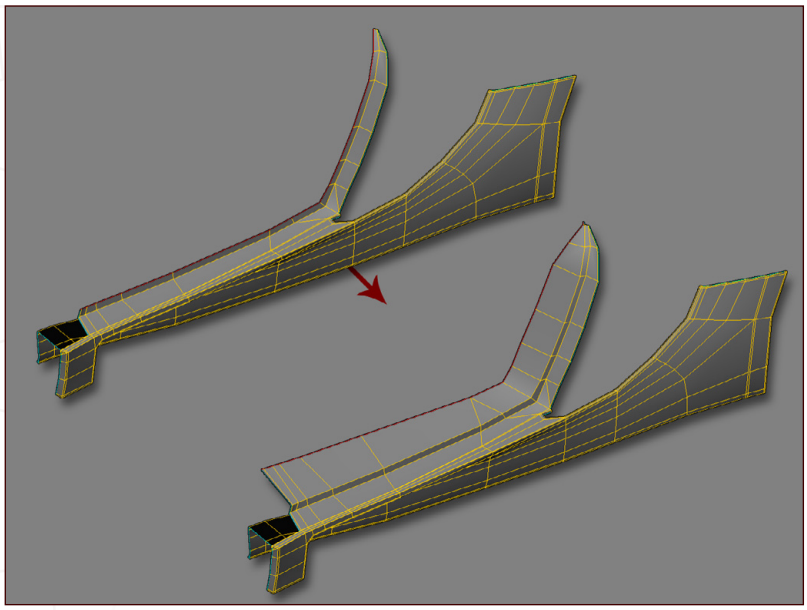
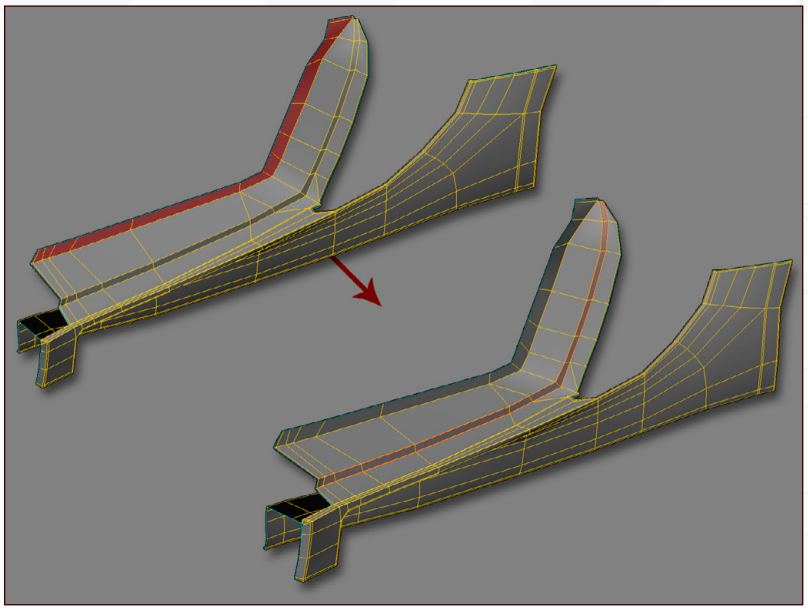


Fig 06

Continue to extrude (**Fig.06**).

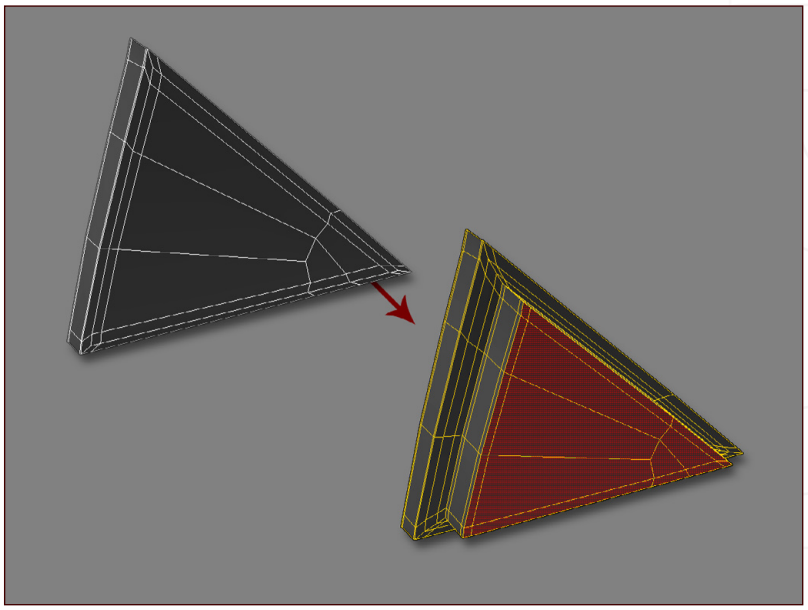
Give it some more detail (**Fig.07**).

Fig 07



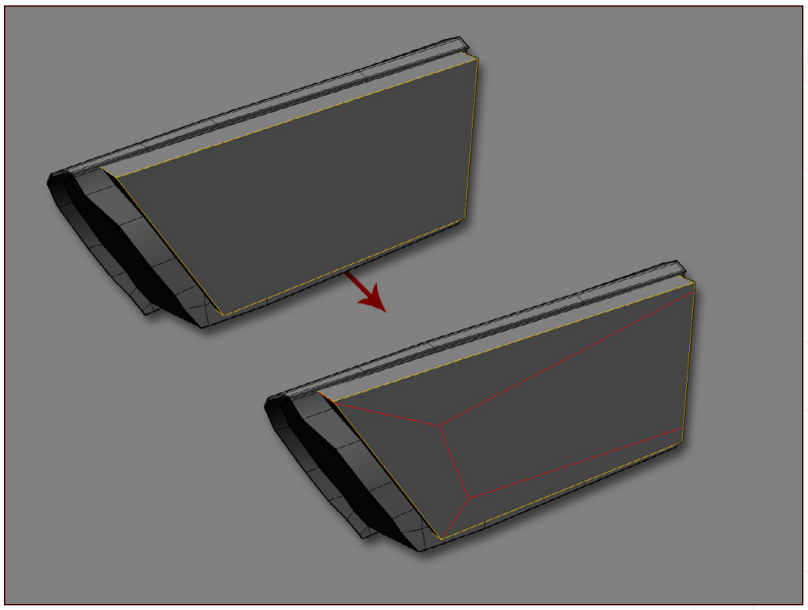
OK, so now comes the rear-view mirror's inner side (**Fig.08**).

Fig 08



Make the inner side of the door out of a box (**Fig.09**). Let's cut in some more edges.

Fig 09



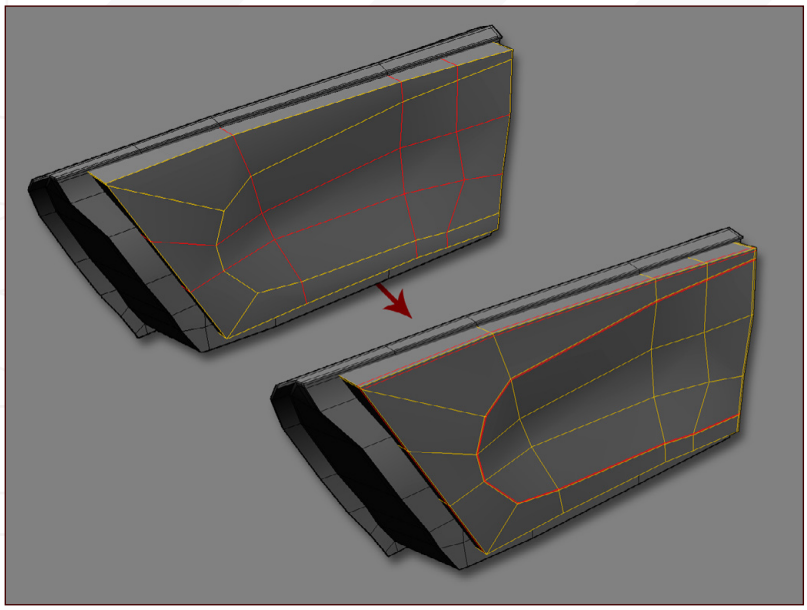


Fig 10

Give even more edges to it and form the pit by moving the points. At the end, give some more edges to it to make sharpened edges (**Fig.10**).

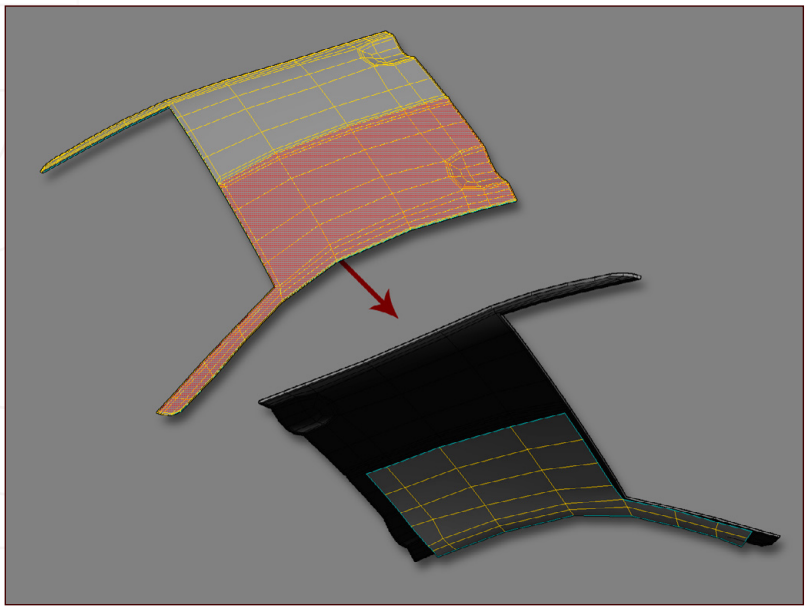


Fig 11

Select the roof and all the polygons that belong to it, then with Extracted Polygons (keep) copy it and turn its Normals (**Fig.11**).

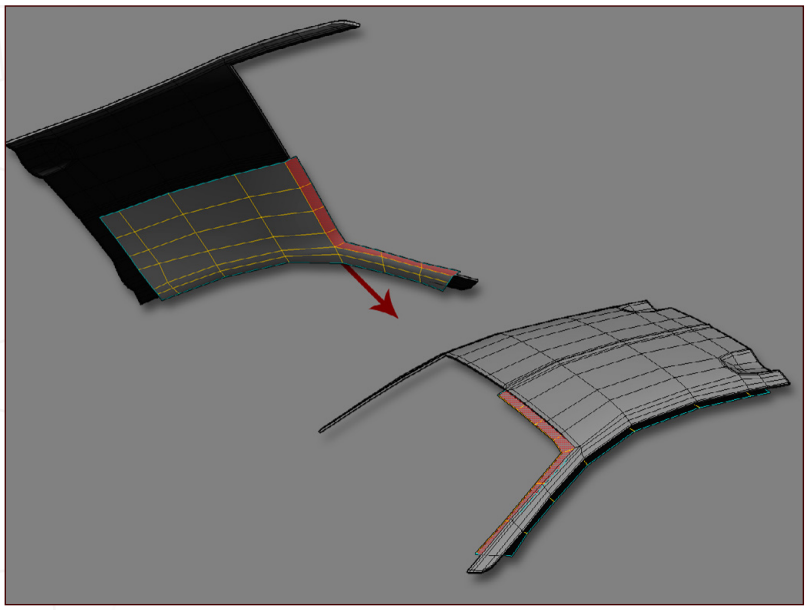
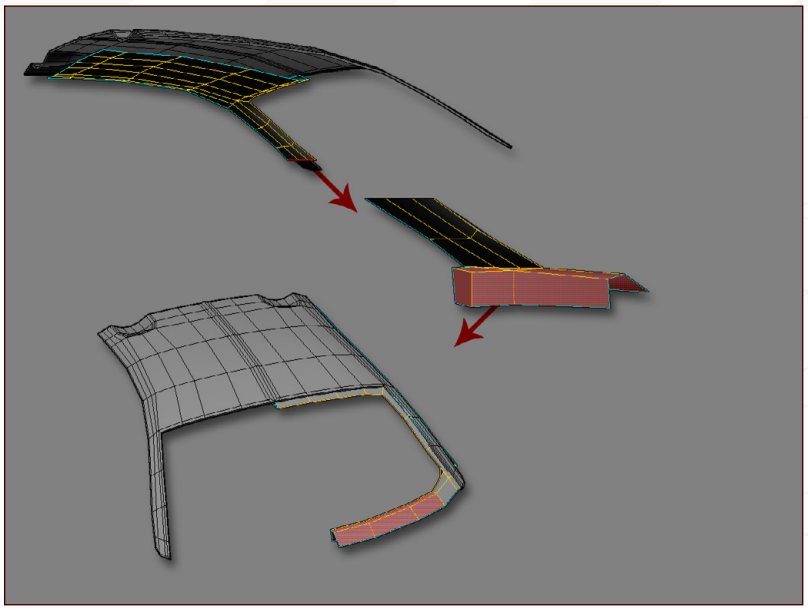


Fig 12

Let's now make the little frame around the front window (**Fig.12**). Making just half of the symmetrical surfaces is enough.

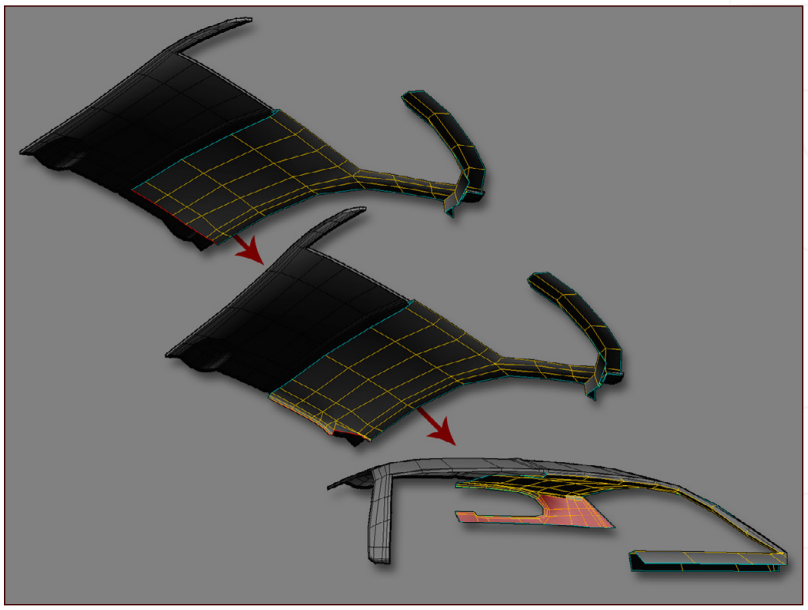
Complete the continuation of the rim (**Fig.13**).

Fig 13



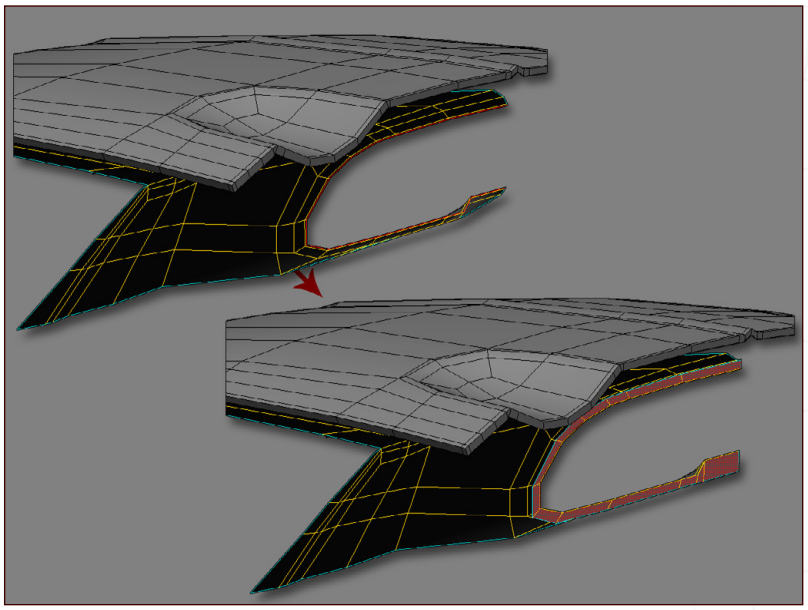
Form the back window using Extrude again (**Fig.14**).

Fig 14



Let's now make the little frame around the rear window (**Fig.15**).

Fig 15



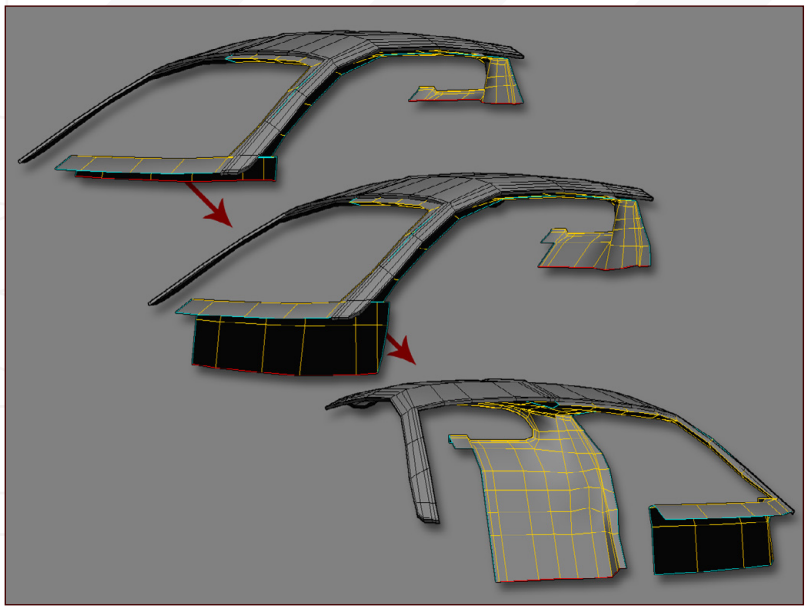


Fig 16

Complete the inside with Extrude (**Fig.16**).

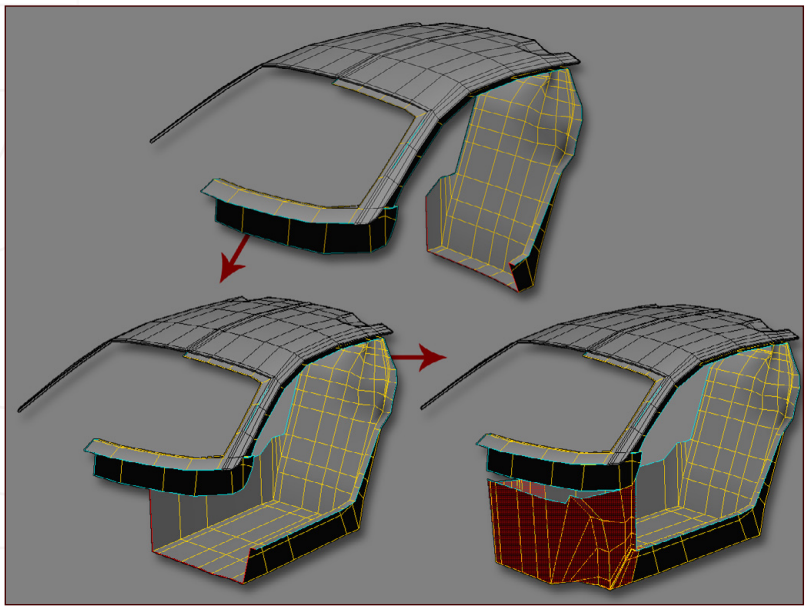


Fig 17

Complete it by combining it with the whole interior part (**Fig.17**).

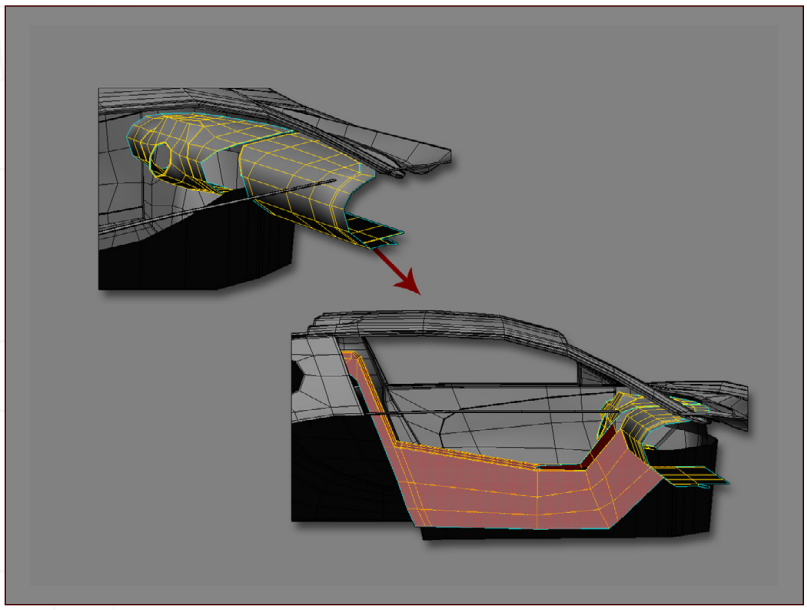
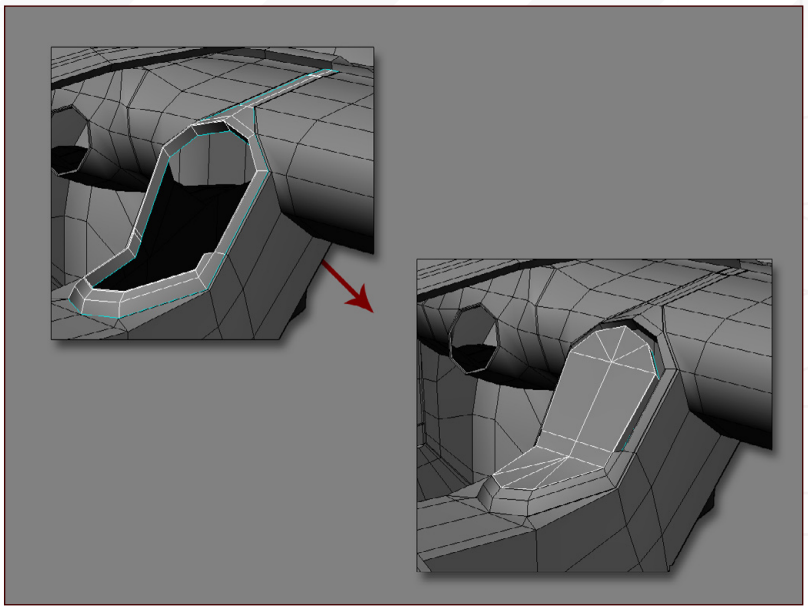


Fig 18

Next we'll work on the dashboard and the middle section (**Fig.18**). Prepare the place for the wheel and the middle control panel.

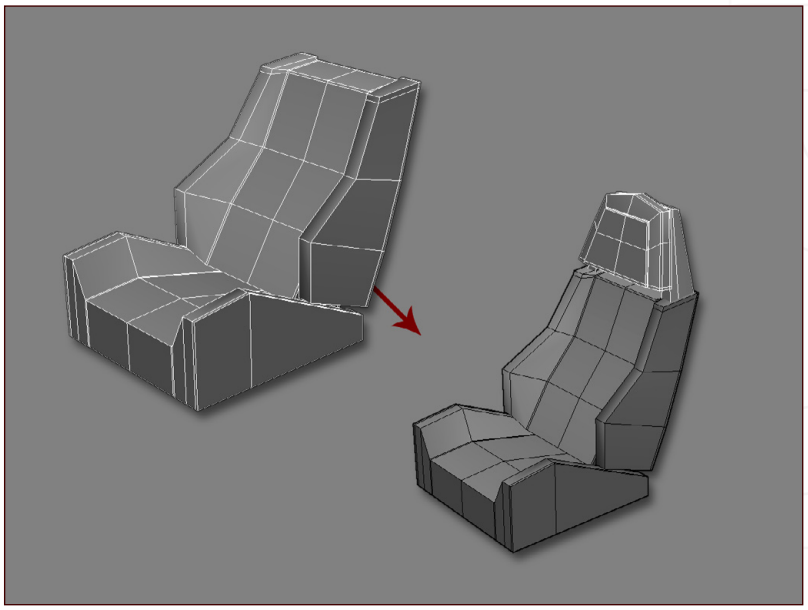
Make the middle control panel now (**Fig.19**).

Fig 19



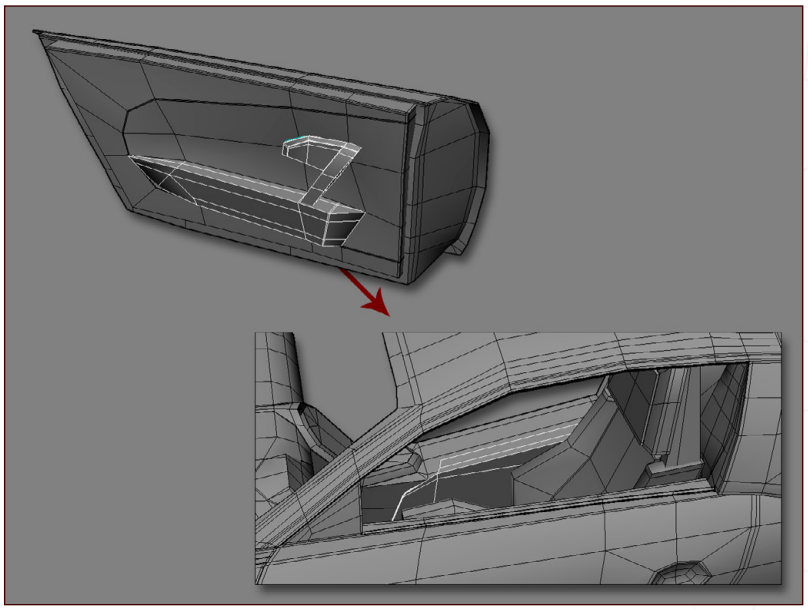
Create the seats from boxes (**Fig.20**).

Fig 20



Add some more details to the inner part using more boxes (**Fig.21**).

Fig 21



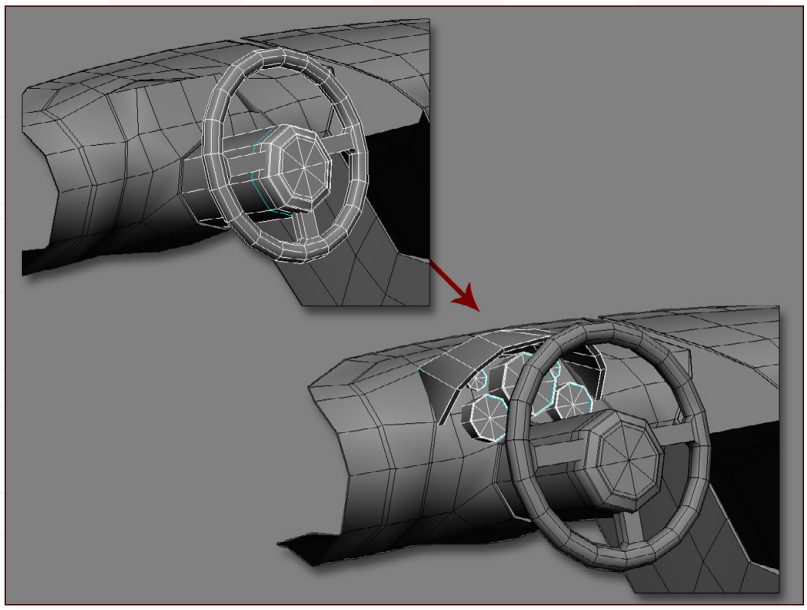


Fig 22

Now add the wheel and the other instruments (**Fig.22**).

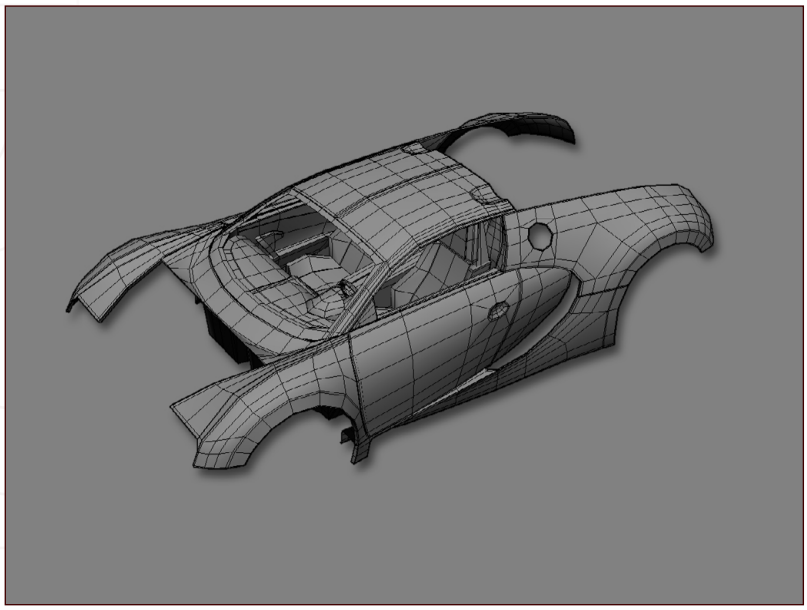


Fig 23

Complete the panel with Symmetrize Polygons (**Fig.23**).

Similar to the movements of the wings before, that we worked on in a previous episode of this tutorial, we can now make the door opening with a Null (**Fig.24**).

Well, we have reached the end of the fifth episode and the model is nearly finished. With some changes to the outside plus lots of details for the inside, and the model will be ready. As soon as I have time, I'm going to finish it, too!

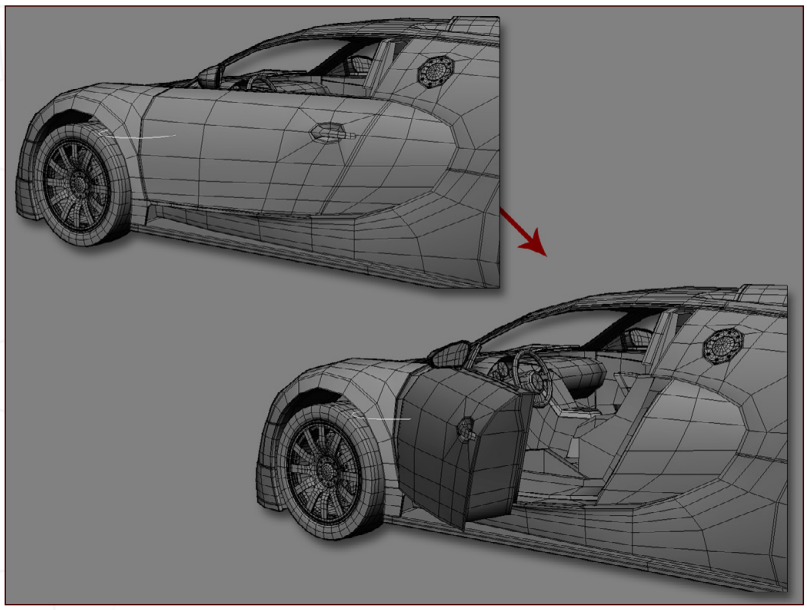


Fig 24

I hope this part has been interesting and useful to you, once again. Next time, I will show you how we apply Basic Materials/Shaders to the car, and make the UV Layout and Texturing.

BUGATTI VEYRON
PART 5: INTERIOR

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